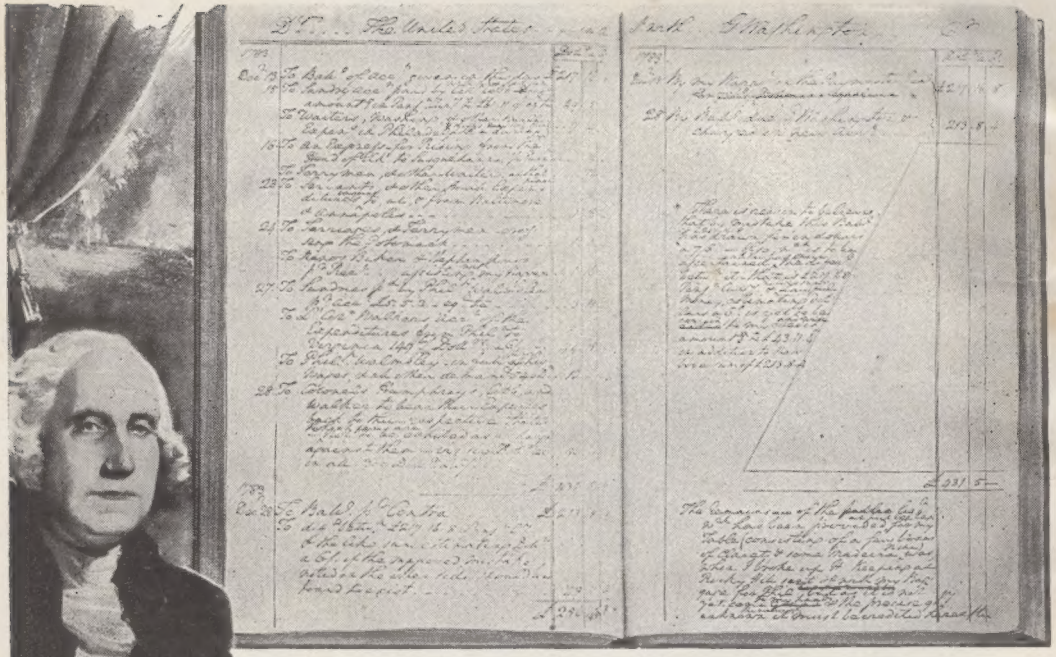
RAILROAD

25¢ MAGAZINE MARCH

ANNUAL SPEED SURVEY



Geo. Washington slipt here . . .

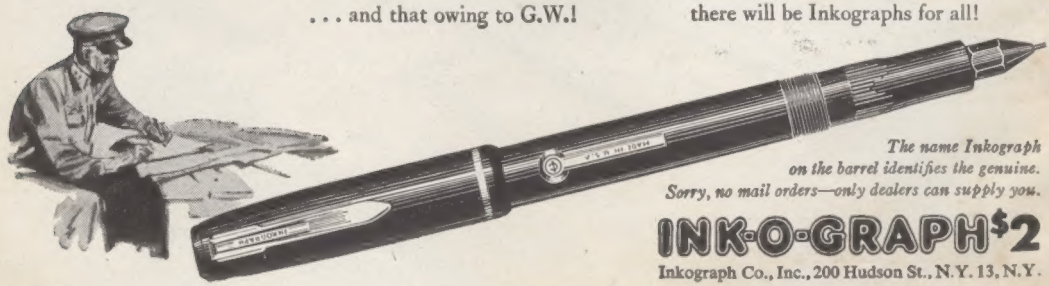
Named Commander-in-Chief two days before Bunker Hill, without staff or means, Washington had to find, feed, clothe, arm and train an army. And in addition, pay his own expenses, to be later reimbursed.

From 1775 to 1783, he kept in his own hand his set of books in double entry. Each colony issued its own currency, whose value varied with localities, had to be changed into "lawful" money. He travelled, often lacked headquarters, spent days in saddle, nights in the field.

Yet so meticulously did the General keep his expense accounts for eight years that Treasury auditors found in his books a discrepancy of only 99 cents . . . and that owing to G.W.!

The Father of His Country wrote with fragile goose quills. Today both GI's and Generals use precision instruments of penmanship . . . Inkographs. Produced with tolerances as fine as plane engines, the Inkograph is leak proof, fast acting, smooth flowing . . . with a diamond-hard point, sensitive to the light touch of Wac or Wave, sturdy enough for the heavyhanded sergeants . . . durable for millions of words, and the letters of a lifetime.

The preference of so many men and women in the services for Inkographs is a source of pride—and problems! Their needs come first, so stores are often shy. Please be patient . . later there will be Inkographs for all!



The name Inkograph on the barrel identifies the genuine.
Sorry, no mail orders—only dealers can supply you.

INK-O-GRAPH $2

Inkograph Co., Inc., 200 Hudson St., N.Y. 13, N.Y.

When You Roll into the MAIN . . .

with Carhartt's

You're Wearing the Best Overalls Money Can Buy!

The Carhartt family has held to the highest known standards of quality overall production in over fifty years of making union label work garments. Made by skilled union workers only—from sanforized Carhartt Master Cloth—lockstitched for sturdiness, reinforced for added wear at stress points—cut full for comfort and roominess—fully guaranteed, Carhartts are tops in wear, a real favorite with railroad men everywhere.

Making lasting friends and everlastingly good work clothes has been our chief aim for over 50 years. Hundreds of thousands of railroad men can attest to their superior quality and workmanship. There is a difference—see for yourself!

WASHABLE WORK CAPS

They're roomy, non-shrinkable, comfortable, keep their shape, look and feel good. In varied materials and patterns.

At the Better Dealers Everywhere

THE HAMILTON CARHARTT OVERALL COMPANY

Established 1889

Detroit, Mich. Dallas, Texas Atlanta, Ga. Carhartt Park, Ky.

THIS LABEL IS YOUR PROTECTION

UNION MADE CARHARTT'S

LOOK FOR IT

Carhartt

FOR OVER 50 YEARS A FRIEND TO ORGANIZED LABOR

RAILROAD MAGAZINE

Originally Railroad Man's Magazine, founded 1906

March, 1945 *Vol. 37, No. 4* *25 Cents*

Front Cover: *"On the Keddie Wye"*
by Aurion M. Proctor

ILLUSTRATED FEATURES

Pocahontas Division *(N&W)*.....*Alfred H. Hock* 8
Annual Speed Survey.....*Donald M. Steffee* 35
Motor Extra 830 West *(WP)*.....*Peter Josserand* 78
Snowplow Job.....*William F. Knapke* 116

TRUE TALES OF THE RAILS

International Boomer.....*Alex S. Home* 94
A Night I'll Never Forget *(Santa Fe)*.....*Frank P. Savage* 103

FICTION

The Missing Witness.....*Don Waters* 56

SHORT HAULS

Less Than Carload Lots..... 6
Locomotives of the Month *(IC Rebuilt Engines)*..... 72
Along the Iron Pike *(Odd Picture-Facts)*.....*Joe Easley* 92
Winter on the Iron *(Photos)*..... 114

DEPARTMENTS

Light of the Lantern *(Car and Engine Bearings)*..... 66
Electric Lines *(Hagerstown & Frederick)*.....*Stephen D. Maguire* 107
On the Spot *(Railfaring Men Heard From)*..... 124
Railroad Camera Club *(Switch List)*..... 140
Model Trading Post..... 144

Henry B. Comstock, *Editor* **Freeman H. Hubbard, *Research Editor***

Published monthly by Popular Publications, Inc., 2256 Grove St., Chicago, 16. Editorial, advertising, subscription, and executive offices, 205 E. 42nd St., New York City, 17. Harry Steeger, President and Secretary, Harold S. Goldsmith, Vice President and Treasurer. Entered as second class matter January 6, 1943, at post office at Chicago, Ill., under Act of March 3, 1879. Copyright, 1945, by Popular Publications, Inc. Printed in U. S. A. All rights reserved. Single copy 25c. By the year $3.00 in U. S. A., its dependencies, and Canada, Mexico and Cuba. Other countries, $4.00.

Manuscripts sent to this magazine should be accompanied by enough postage for their return if found unavailable. Publisher cannot accept responsibility for return of unsolicited material.

LIGHTER MOMENTS with fresh Dated Eveready Batteries

"What'll I do with it, Sarge? There ain't no carpet!"

"Keep your eye on the Infantry—the doughboy does it!" Won't you lend a few dollars to shorten the war? Buy more War Bonds!

RIGHT NOW, of course, the supply of "Eveready" flashlight batteries for civilian use is very limited. Nearly all our production goes to the Armed Forces and essential war industries. Their needs are tremendous and must come first.

But when this war is over, you'll be able to get all the "Eveready" batteries you want. And they will be new, improved batteries...they will give even longer service, better performance.

Fresh DATED BATTERIES Last Longer
Look for the date line

EVEREADY
TRADE-MARK

The word "Eveready" is a registered trade-mark of National Carbon Company, Inc.

Less Than Carload Lots

ALL CNR cabooses are now being painted bright orange instead of the traditional red, because of greater visibility, an important factor when long trains clear sidings. With a glossy finish, the new color is expected to wear better than the old. However, underframes and roofs are still red, while lettering, monogram and slogan, *CNR Serves All Canada*, are white.

* * *

LAKE COUNTY stands apart from California's other 57 county varieties since it alone has no railroad. Natural barriers make construction impossible, and attempts by local capital to stretch rails beyond the mountains have stopped in the roadbed stage with failure. The main produce of this area is perishable fruit, which is hauled by truck.

* * *

RAILDOG. If this dog could talk, Conductor Charles F. Martin, who's been railroading for more than 54 years, would now be trading stories with *Torpedo*, world traveler to the extent of 60,000 air miles. *Torpedo*, mascot of a Naval bombing squadron for three years in the Atlantic, was honorably discharged when the rest of the crew got orders for the Pacific. His master—Raymond L. Martin, grandson of the B&M conductor—left the dog with Charlie until after the war. He's now a raildog.

* * *

FIFTY YEARS ago, when the St. Louis Union Depot was formally opened, it was regarded as the world's largest union station. Observing this anniversary, the Junior Chamber of Commerce in that city has placed a marker at 12th Street Viaduct and Poplar Street, on the site of the great building's predecessor, a smaller depot completed in 1875 and subsequently razed. Today's station, the marker says, "stands at the center of the crossroads of America, used by more railroads than any other union station," the number of roads being sixteen.

* * *

COSTLIEST 60 MILES. It is said that the 60-mile extension of the Chicago, Milwaukee & St. Paul is the costliest piece of railroad of that length in the world. The section lies between Taft, Mont. and St. Joe, Idaho, and average cost per mile reached $190,000. There are thirty-five tunnels on the road, the largest cuts through 8,000 feet of solid rock.

* * *

COINCIDENCE. C. L. Husted, of the Worcester Salt Co. traffic dept., Silver Springs, N.Y., reports that Illinois Central and Burlington boxcars, both numbered 33710, were lined up side by side loading salt at his plant last Armistice Day. That in itself is rare. But this one takes the cake: Last August 5th an ordinary boxcar, Erie 70787, left Silver Springs loaded with salt for Portland, Me., via the Erie, Delaware & Hudson, and Boston & Maine. Twelve days later the same car left the same place with the same kind of merchandise for the same customer over the identical route. Talk about a royal flush in poker!

* * *

MILLION-DOLLAR WRECK. Claims resulting from the New York Central wreck of the *Brewster Express* on the Harlem Division reached more than a million when final settlement was made. This excluded loss owing to delay in traffic, and the destruction of their own equipment. The accident took place near Woodlawn on February 16, 1907. The largest amount paid out for a death was $75,000; smallest, $5,000. Eighteen of the twenty-two victims were women, eleven unmarried, which reduced materially the damages the company had to pay out, although several of them were bread-winners.

"Keep the change"—

[A simplified Annual Report of the American Railroads in their third year at war]

IN 1944, the railroads rendered to the American public the greatest volume of service ever performed by any agency of transportation.

For doing this job, they received about 9½ billion dollars. That's a lot of money—but most of it was earned by hauling tremendous tonnages of freight for less than one cent per ton per mile and carrying passengers for even less than before the first World War.

Out of every dollar the railroads received—

38¢ was paid out in pay rolls.

29¢ was paid for materials and supplies of all sorts and other operating expenses.

19¢ was paid in taxes—federal, state and local.

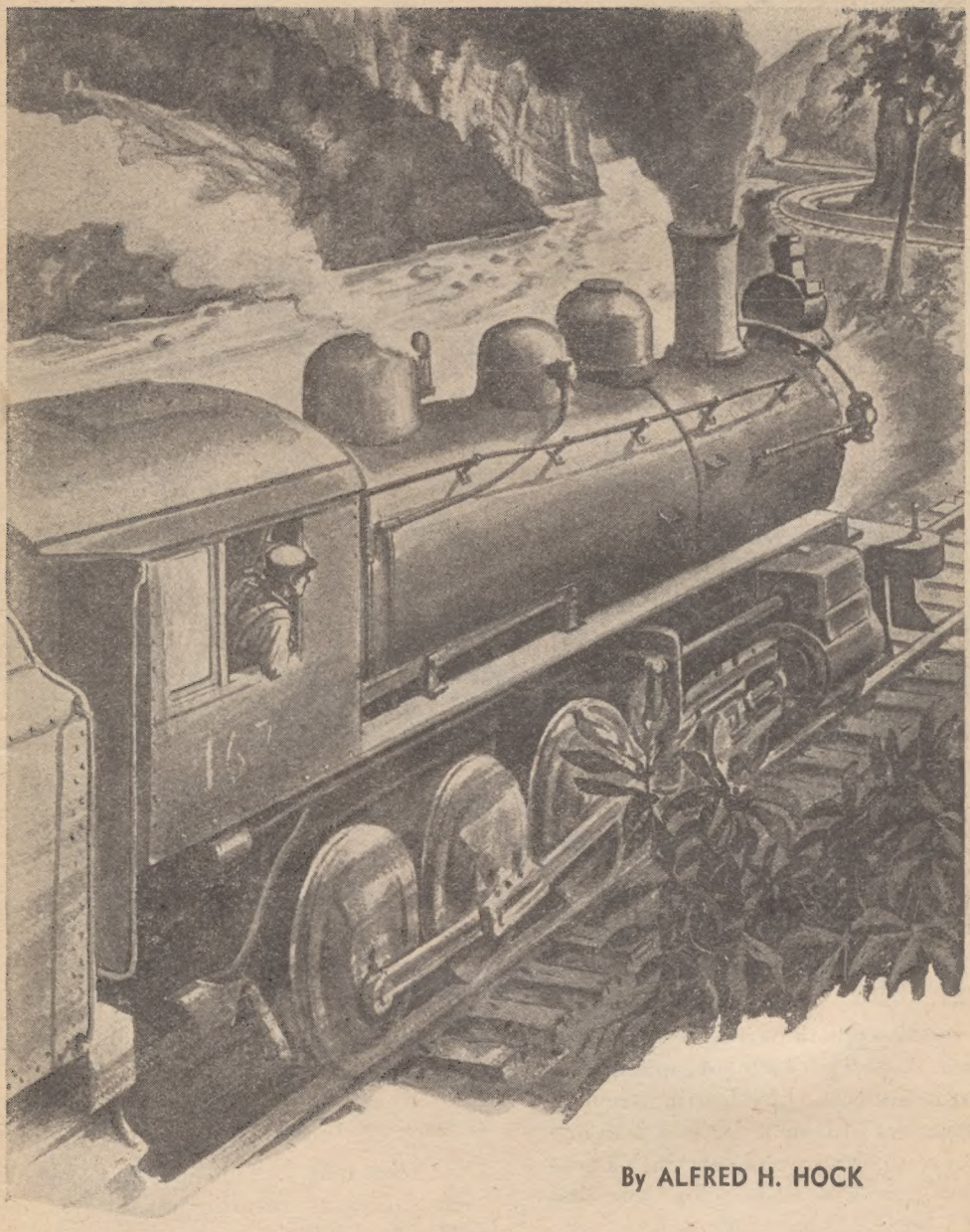
7¢ was paid in interest, rents and other charges—a great share of which went to insurance companies, savings banks, endowed institutions.

2¢ was paid in dividends to stockholders.

5¢ was left over in "change" to cover all such things as restoring roadways and equipment after the war, paying off debts, and providing reserves for the improvement of plant and the modernization of service necessary to keep pace with American progress.

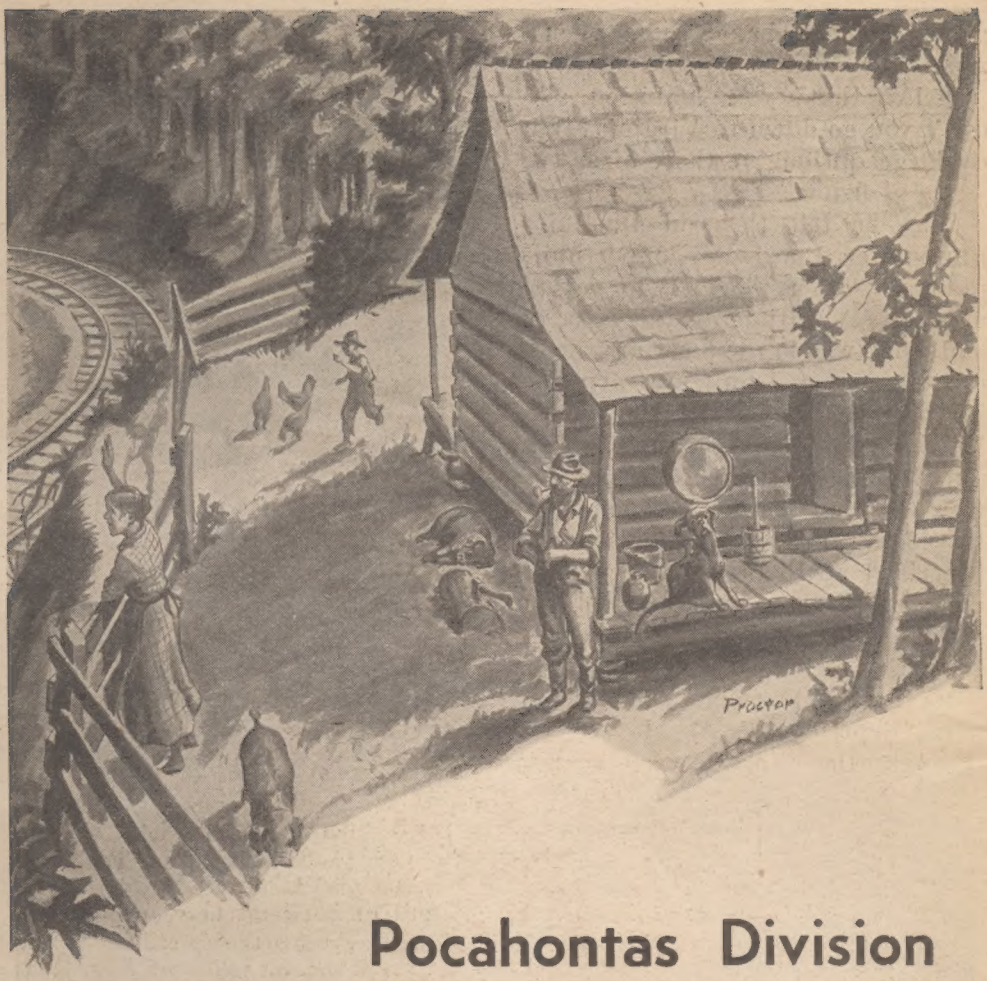
BUY MORE WAR BONDS

ASSOCIATION OF
AMERICAN RAILROADS
ALL UNITED FOR VICTORY



By ALFRED H. HOCK

BACK in 1884, when I was thirteen, I sat spellbound through a play one night at the Grand Army Opera House in my native town of Shamokin, Pa. The stage scenery represented a railroad in West Virginia hill country and the play was a lurid melodrama about bandits plotting to wreck and rob a train. I believe the story was based on a real incident in which members of the James gang had been involved. What amazes me now, as the old "blood and thunder" comes



Pocahontas Division

A Retired Engineer Looks Back Over 48 Years on the Same Division of the Norfolk & Western

to mind, is the clue it gave to my own future. Whether or not it actually helped to shape that future, I can't say for sure.

No, I never went in for banditry. But I did railroad through the mountains of West Virginia—and Virginia—running engines in the kind of country that I had seen on the Shamokin opera stage. I often thought of that play while I was wheeling 'em over the hills and wondered if I'd ever meet a real, live, train robber—which, of course, I never did.

At the age of sixteen I took up the carpenter's trade, but my heart was with the railroad. On pleasant summer evenings a group of us boys would hang around the Philadelphia & Reading tracks at Shamokin, catch freight trains, and ride for miles. That was our idea of fun. It gave me the desire to become a locomotive engineer. Now, there are endless ways of breaking into the railroad

game, and my chance came when I was twenty-one. A friend remarked: "Al, if that's your ambition, why don't you go down to Virginia? You could get an engine there after two years of firing."

Why he felt the Old Dominion State offered a better opportunity than any other place, I do not remember. A national panic was on and work was hard to get anywhere. Just the same, I quit my carpenter job and headed south. Enroute to Virginia, I stopped off at Washington, D. C., on March 4th, 1893, to view the inauguration ceremonies of President Cleveland. The next day I arrived at Roanoke. After wasting a week there in search of employment, I went on to Bluefield, W. Va.

My first impressions of Bluefield were depressing. As I strolled through the Norfolk & Western

ABOVE: Bluefield, W. Va., as it looked from Tank Hill, back in 1890. Norfolk & Western's line cuts diagonally across the spread, disappearing in valley of East River which it will follow downstream to its confluence with the New. Depot is to left of center, on smaller panel

AT LEFT: Typical homestead in the Pocahontas region, before the coming of the railroad. Note hand split shingles and snake fence

yards I came to an overhead bridge, where a short stout man was handling the switches.

I said to him: "Mister, I don't like the looks of this town. All I want is supper, a night's lodging and breakfast. I'm going

to Ohio on the morning train."

"Where are you from?" he asked.

"Pennsylvania," I replied.

He pointed to a frame structure near the caboose track. "That's a boarding-house kept by a Pennsylvania man. Maybe if you go there you'll find somebody you know."

It proved to be a good steer. Although I did not meet an old acquaintance in that house, I did see a young fellow coming down the porch steps, wearing on his coat lapel a Knights of Malta badge. I, too, belonged to that order, so I greeted him as a brother. We shook hands and I learned that he was a nephew of the proprietor and a fireman on the N&W. His name was Ed Woodring.

Naturally, I stayed for the night. Next morning my new friend took me to the trainmaster's office and aided me in landing a job as freight brakeman. Thus began a career that kept me on the iron road for forty-eight years.

IN THOSE DAYS Bluefield was like a pioneer village, its buildings squat and ugly, its streets unpaved and covered with hub-deep mud. At street intersections there were flat stones, placed about eighteen inches apart, which enabled you to cross without sinking into the mire. One desirable feature was the lack of saloons, but this was partly offset by the fact that anyone going to certain doctors could get a prescription for a pint or quart of liquor. I soon found that the town was suffering from a widespread epidemic of ills which apparently could be cured only by whisky.

Yes, Bluefield of half a century

KEYSTONE, W. Va., lies to the west of Elkhorn Mountain. Here's what happened when creek of the same name went on one of its Spring rampages in 1901

ago was raw and primitive. Today it is a small but modern city, the center of the busy Pocahontas coal fields, with well-paved thoroughfares and smart-looking homes and business structures. I am proud to live here, at 215 Rogers Street.

AL HOCK as he looked in 1893

After a few days of learning the road, I made my first trip as brakeman on March 20th, 1893, leaving town at about six a.m. and not arriving at our terminal until evening of the next day. That, my friends, was a long trip! The terminal, Gray, consisted of a freight station, a telegraph office, a general store and a few frame houses. When we pulled in we were serenaded, you might say, by a gang of Negro trackmen. Those brawny fellows had completed their day's work, had eaten supper, and were seated on the depot platform, singing. The rich melody of their voices filled the valley—an experience I will never forget. My conductor on that run was John Wall.

However, my job as brakeman soon ended. By the beginning of June traffic had become so slack that I resigned and again followed the carpenter trade, still employed by the Norfolk & Western but building section houses instead of twirling brakes. A gang of us were assigned to build houses at North Fork Junction, W. Va., a spot which until then boasted of but one structure, a dinky four-by-five telegraph office. We pitched a large tent in which to do our cooking and sleep, and went to work.

Saturday was important in that locality; it was pay day at the mines. The first Saturday night I spent at North Fork Junction was clear and balmy. Our big white tent stood out boldly in the moonlight. Many miners had gone to Keystone, the nearest settlement, to "liquor up." Along about dark they began drifting back, singly and in small groups, to the various hollows where they lived. Nearly everyone toted a gallon jug of whisky and a dozen bottles of beer tied to a thick cord. Some carried revolvers, and used them as the night deepened and alcohol befuddled their brains. The celebration was loud and rough. It sounded like a battle. At any moment I expected bullets to penetrate the tent in which we were trying to sleep.

Next morning, when we strolled over to the telegraph office, the brass pounder told us that seven corpses had been found on the five-mile stretch between "Dead Man's Cut" and at North Fork and Switchback. Then about two o'clock that afternoon the festivities continued with a gun party. Two men and three women were arguing noisily on the track that led up to a hollow from the main line. All seemed to be drunk. One woman walked away from the group. A man's voice ordered her to return. The woman kept on walking. Her gentleman friend then whipped out a revolver and fired, the bullet nipping her ear. After that the woman came back in double-quick time.

We were glad to leave such boisterous neighbors. As we finished one job we moved on to another, all summer long, eventually winding up in the Tug River valley, noted for its majestic scenery and the perfume of

its wild blossoms. It was a real pleasure to work there. I was young and light-hearted then. A North Carolina man in our carpenter gang entertained us at nights by playing the banjo and singing. Never before or since have I had such a summer.

But all things end. I returned to Bluefield and secured a job of firing through the influence of Charles Gibberson, an engineer from Shamokin. I scooped coal for him on my first trip firing, September 22nd, 1893. I was very green then. At Bluestone Junction we were given a "19" order to meet several trains at Cooper. The old-timer passed the flimsy over to me to read, and as soon as I had done so I threw it away.

"Oh!" he said. "You must keep the orders until they have been fulfilled."

MY THIRD TRIP was made with Charles Akers. In those days the fireman got the engine ready for service, filling the lubricator and the rod cups and oiling around; also looking after the fire and working up steam. Supplies were kept in tank boxes, the keys to which were hung in the call office, but where that was I had not yet learned.

Just about leaving time, Mr. Akers inquired, "Is she ready to go?"

"No," I replied. "The boxes are locked up and I do not know where to get the keys."

"How long have you been firing?"

"This is my third trip."

Without another word he jumped off the engine, strode over to the call office and picked up the keys. Soon he and I, together, had the engine ready. Our train was a local which did not exceed about twenty miles an hour. We stopped at all stations, which were small and plentiful, to deliver local freight and pick up and set out cars. The runner got off at these places, going back with the crew, and left me to do the switching, although he was unaware whether or not I could even work the injector. Luckily, nothing went wrong.

After I had been on the job about six months, I acquired the knack of getting just about all there is to be gotten out of coal. At first I would have black clouds of smoke coming out of the stack, which indicates poor combustion, but in time I reached the point where I could open the firedoor and gaze with pride at white

flames showing that the fire was all it should be. I would use three shovelsful of coal in quick succession, one along the right side of the firebox, another on the left side, and the third with a twist that threw it on the front end and through the middle.

I was then working on the Pocahontas Division. This 106-mile stretch was forked so that the main stem ran to Columbus, Ohio, while a branch, the Clinch Valley, extended from Graham, Va., to Norton, Va. About that time the management decided to make two divisions of the Pocahontas, but still under one Superintendent. F. R. Wadleigh, Road Foreman of Engines, asked if I wanted to go on the Clinch Valley. I told him yes, and so I was sent there.

Like all other roads, the N&W had its share of boomers—drifters who came to West Virginia for one reason or another, did not like the coal-mining country, and wandered on after accumulating a stake. Some of these were competent railroad men, but many were riffraff from far and wide who flouted authority and treated Rule G as a joke. The typical boomer rarely, if ever, darkened a church door. He would get credit at a local store, eventually gaining the confidence of the merchant, run up big bills and then, when he was ready, draw his money and decamp, with the merchant holding the bag.

Today, however, with some exceptions, the men who run engines and trains are of the highest character, affiliated with churches, lodges and community welfare groups. Rule G is a vital safety factor in modern railroading. The carefree, irresponsible boomer is gone, like the covered wagon and the link-and-pin coupler.

My first trip over the Clinch was with an old runner named Geiger, a genial fellow who made what he thought was a gesture of friendship. As we were leaving Graham he shoved a quart bottle of whisky over the boiler at me. Surprised, almost startled, I said:

"No, thank you. I do not use it."

He seemed to be taken back at this and asked anxiously: "You won't give me away?"

"I don't care what you do," I replied.

On our return trip we stopped at Finney, a station and water tank, to get water. It was then about two a.m. The engineer decided that since I did not care for liquor I might welcome some other kind of beverage. So he inquired:

"Do you want some milk?"

"Yes," said I, "but where can you get milk at this time of morning?"

"Come along," he invited.

At that place a little stream of water trickled down a hollow. With

SWITCHING ENGINE 130 was eight years old when Al Hock went firing out of Bluefield

our torches burning, we went up the hollow a short distance till we came to a shack, where he opened the door. Several crocks stood inside. Mr. Geiger reached for a dipper, filled it with milk and handed it to me. While I was drinking, I looked up the hill to where a small house was located. A man in the door watched us but said never a word.

Years later, this same engineer and a conductor were in charge of an excursion train bringing people from Norton to Tazewell, Va., for a Fourth of July outing. Both men were under the influence of red-eye. They had a meet with another train at a place called Russel Creek, but overlooked it. A head-end collision resulted.

AT FIRST I bucked on the extra board, with no regular engineer. Mountain ranges along the Clinch Valley are beautiful. At some places huge rocky bluffs rise high in the hills, while in the valley the river runs for miles through verdant country, with small farms on either side of the road. Elsewhere there are miles of tree-covered hills, making it a joy to be out, especially on peaceful summer evenings.

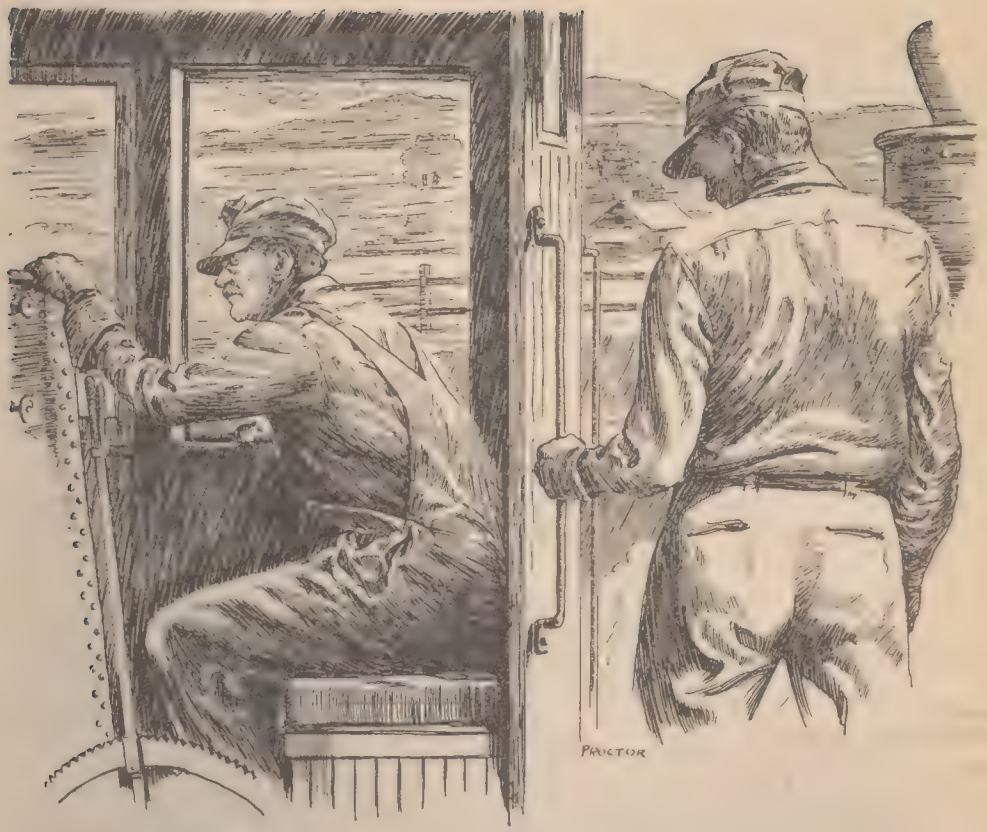
But danger lurks in this magnificent landscape. One night I was called to fire a run to Norton. At that time the road was new, with cinder ballast, cuts newly made, and rocks and slides often blocking traffic in bad weather. Rain had been falling sullenly for a week, and trackwalkers were out all over the division. Near Pounding Mill a high rocky bluff towered on one side of the track, while the other side sloped through broken jagged rock about a hundred feet to the river. A trackwalker had been up the line about two miles from there when he heard the rails ringing, so he told us, and hurried down to see what had caused it. He found that a boulder as big as a caboose had fallen off the bluff, landing square on the rails. If he had not flagged us and got us stopped, I probably would not be telling the story today. We stayed there a long while. Section men had to dynamite the rock before it could be moved.

At that time locomotives were equipped with steam brakes—we called them "steam jams." When they were in good working order, so much the better; but if not, the roundhouse force frequently ignored that defect and ran the engine just the same. The only way to stop such an engine, provided the ground was level, was to use the reverse lever and throttle. If you were on a grade, you had to put chocks under the wheels to keep her stopped—unless you had a caboose or cars attached, in which case your crew tightened their hand brakes.

This reminds me of the night I was called at Norton, with Engineer "Beau" Douthet and Number 15, to bring out a train. They had not finished making up the train when we pulled into the yard.

Beau got off at the yard office, instructing me to pull in the clear on a yard track until the train was made up. Now, it happened that the brake on Number 15 was out of order. However, when I got in the clear, I saw the engine was standing still and I thought she would stay there.

Not being familiar with the yard, I did not know it was on a slight grade. In a little while the yard goat began to pull a string of cars out of the track beside me. The vibration



"I HAVE GONE TO SLEEP standing on a bouncing engine-tank deck"

it caused started my engine rolling. As the night was dark and cars glided past me, I could not tell I was moving until a car bumped into my cab window, with the result that the engine and several cars were derailed. Because of this, I was given five days' suspension.

In those years we had no sixteen-hour law and the men were worked unmercifully. On the short runs out of Bluefield that delivered empties to the coal fields, it was customary for us to bring back a train of loads, setting them off at Flat Top yard about seven miles from Bluefield; then return light over the hill, haul another train back, drop that at the same place, and finally go over the hill again for a third train.

The road, being single track was badly congested. We were tied up for hours at various places while trying to get by. I remember a day when we had gotten back to Flat Top on our second trip and had been thirty-nine hours on duty. The conductor went in the pump house, picked up the phone, and asked the dispatcher if we could not come to Bluefield and be relieved.

"No," he answered. "You've got to make the third trip."

It was a tough break, but tough breaks were common in the not-so-gay 1890s. I have stood on a bouncing engine tank clinging to the handholds on the cab, so worn out with loss of sleep after long hours on duty that I dozed off standing up.

ONCE I was called to go out with Engineer McDonald, from the Deep South, a man addicted to liquor. When I boarded the engine at Norton on the return trip and raised the lid of the fireman's seatbox to put my coat away, I saw in the box a pint of whisky and a dozen cigars. I motioned for the front brakeman to look. He grinned and drank the whisky, after which we both smoked the cigars. I have often wondered what old McDonald said when he opened the seatbox to get his stuff.

Later on, another fireman went out with this same runner. It was a black rainy night. On their arrival at Richlands the order board was out, so they stopped for orders. The train consisted of fourteen cars of coal, all with link-and-pin couplers and no airbrakes. After getting his orders, McDonald pulled his throttle open to leave, and broke off part of the train; but, being under the influence of alcohol, did not notice it. The grade was fairly heavy. The brakeman noticed that the engine was running too easily and could not see the caboose marker lights, so he told the old man he did not have his train.

"Oh, yes, I have," came the reply.

Still the brakeman was not satisfied. Going back on the tank, he found they had but one car. Then he informed the old man, who by this time had gotten to the station about three miles away. Mr. McDonald stopped, reversed and, not knowing where his train was, ran back down the track as fast as the old girl would turn a wheel, all the way to Richlands. There he saw his train standing, undamaged, and heaved a big sigh of relief. It was a narrow escape.

The most pathetic scene I have ever witnessed occurred the night our crew was instructed to go to a track

OLD CLASS W Consolidateds hammered over the mountains in the early 1900s. Man holding oil can is Hock's brother-in-law, Engineer C. H. Bradley

that led from the yard to the Bluefield Foundry Company. This track was on a sharp curve; car bumpers nearly came together on one side of it. Our brakeman did not think of this when he went in to make the coupling, which was link and pin. The cars came together, crushing the poor fellow between the bumpers.

The victim's brother was a yard clerk, working not far from where we were, and we sent for him. It was very dark. All the crew stood there with torches and lanterns in their hands; flickering lights cast shadows on the buildings and purple hills beyond, as the young clerk knelt in prayer beside his dying brother. Time will never erase that picture from my mind. The only silver lining is the thought that our brakeman did not die in vain. His death, among others, in addition to countless injuries, finally brought about a safe method of coupling cars. There will probably never be another link-and-pin casualty in the States or Canada.

Incidentally, the engineer on that run, Neal Pate, was killed years later when his passenger engine turned over at Cowling's Curve on the Radford Division.

Although many locomotives are notorious for their bad steaming qualities, engine failures also may be caused by poor firing. Which brings me to the night when I was called for a pusher on the Radford Division going to Lurich, Va., to push a train to Bluefield. Our engine, Number 110, had a "log" type of boiler. Firemen on that division were not having much success with the 110, being forced to stop frequently to blow up —that is, to get her hot and her boiler full of water.

When we left Lurich I shoved the hook through the fire and the engineer, John Holliday, began to rap her. I could not keep the pointer on 145 pounds of steam. It would drop back on me; but at long intervals the runner would shut the injector off and, with a quick flirt of the hook, I would have the gage going back to the 145 pounds. We arrived at Bluefield without stopping.

"You sure know how to fire," he said to me. "You're the first man I have had for a long while who could bring this engine up this hill without stopping for steam."

Some time after that I was called for an old engineer on the Clinch Valley. We had another log boiler that night. From Graham to Tip Top was a distance of ten miles and this engine, the 101, was more than hard to get steam out of. We had to stop at Tip Top, just before we turned the hill, to get more water in the boiler. Later the conductor came over from the cab and I heard him say to the engineer, Wesley Thomas:

"She's doing better tonight, isn't she, Wes?"

Turning to the head brakeman, a colored fellow, I remarked: "Guess I've lost my reputation."

He laughed and said, "Most of them have to stop twice coming up this hill."

That, of course, made me feel better. I had not known the engine bore such a bad reputation. I might add that Mr. Thomas retired many years ago but is still living.

ON ANOTHER occasion I was called to go with Engineer Pate. We were given a meet with a westbound extra at Gillespie, Va. While the engineer and conductor were chatting on the side of the road, I checked on the amount of water the engine had. I put the injector on,

and by the sound I knew there was dirt in the tank hose.

Then I shut off the injector. Knocking the tank hose loose and pulling out the strainer, I cleaned out the hose and set the injector to work again. All this I did without being told what to do or how to do it. Runners appreciate such service. The head brakeman told me:

"That engineer seems to be stuck on you. He's gonna get you to fire for him if he can."

As a matter of fact, Mr. Pate pestered the Road Foreman for some time, trying to get me assigned to him instead of his regular fireman. Realizing how much it means to a throttle artist to have a fireman he can depend on, I made a point of cooperating as much as I could. For instance, there comes to mind the time when we were getting ready to leave Norton with an engine which had water pouring out of the firebox. The engineer, Louis Woiblett, was disgusted.

"I'll have to call the dispatcher," he said. "We can't haul a train with this leaky piece of junk."

"Wait till we get some good coal," I responded. "That'll dry her up."

But the engineer would not listen. He notified the dispatcher, who instructed him to set off half his train. Now, at the top of Bull Mountain we had a coaling station called Bannervane. The fuel there was almost as hard as rock, but made the hottest fire of any coal I ever saw. I got a tank of this, piled a lot into the firebox, put on the blower, and at the foot of the mountain I had the engine dried up. Mr. Woiblett was uneasy over this, for he thought it meant trouble for him. We made a fast run over the division; and at Graham, coming into Bluefield, he had me pull all the fire away from the flues so that when we arrived at the terminal, water was pouring out as before.

Whenever we had a leaking engine that we could not dry up, we would stop at a sawmill, get a half bucket of sawdust, fill the bucket with water and start the injector going. Then we'd pour the water and sawdust into the injector, which would carry it into the boiler, in many cases stopping the leaks.

For a long time the company furnished gluey paper pulp for the same purpose. What it did for the flues and what grief it gave the boilermakers, I do not know. I can say that sawdust and paper pulp took many a loaded train over the road that otherwise would not have pulled in on time.

Engine 149, which I was obliged to handle, had a bad name. Firemen cursed her as a very poor steamer; many a time they had to stop her for steam. On account of this reputation, I expected a hard trip. But I had learned a few tricks of the trade. Whenever I was stuck with a jinx just like that I would start with a very light fire and, if that wouldn't do, would gradually build up to one more suitable. Well, we left Graham with a modest fire. I watched the steam gage closely, and it did not drop at all. I would go quite a distance without tossing in any coal. You might think there was no fire in the box, but every time I opened the door I would find it burning at white heat.

When we had meets with other trains that day, I would bring her to popping off, just to see the engineers and firemen watch with mouths open in astonishment, for they all knew the reputation of the 149.

That night we were passing Tacoma, about seven miles from Norton, in a narrow valley. About a mile west of the station, on the left side of the track, we passed a small house, near which stood a pigpen. As I opened the firedoor a broad beam of light flashed out over the buildings. A bear had come down from the hills, obviously to get his supper. I saw him rush out of the pen, and if ever an animal was in a hurry that bear was. The engine had frightened him. The last I saw of Bruin, he was making for the hills.

IN THE 1890s, firemen were required to keep their engines clean, and there was quite a rivalry among the men as to who could have the nicest-looking machines. We would rub the Russian iron jackets with tallow until they shone, and polish the bell and number plate, also other brasswork, as well as the copper tallow pipes that ran from the boiler to the top of the steam chest. I even carried the flags we used on the engine wrapped up in newspaper to keep them clean. One day we pulled in at Gillespie to let the passenger train by. My engine was shining like a new pin. Company officials had their car on the rear and it made me feel good to see them crane their necks looking at her.

I was marked up with Engineer Pate, who had tried for so long to get me, and I stayed with him until I was promoted. Our trains were short and had three brakemen apiece. The front shack was generally a good fireman. Often the engineer would go back to the caboose to visit the conductor, leaving his fireman to run the engine for miles. Because of this custom I got lots of practical experience and, when promoted, was fully qualified to run a locomotive.

The company adopted a new schedule for handling mostly time freight from Bluefield to Norton. Now, that division of 106 miles had 114 wooden trestles. I'll tell you of an experience I had on one of them.

It was a beautiful July evening. The sky blazed with a million stars, while a gentle perfumed breeze drifted through the valley. Our train was a time freight having thirteen cars of merchandise, and we carried signals for a second section of eighteen cars. We were making a good run when we came to a hilltop known as Ball's Summit. At the foot of this little slope, in the middle of a sharp curve, a trestle stretched for about seventy-five feet, and about one-third that distance above the surface of a brook meandering through the daisy meadow.

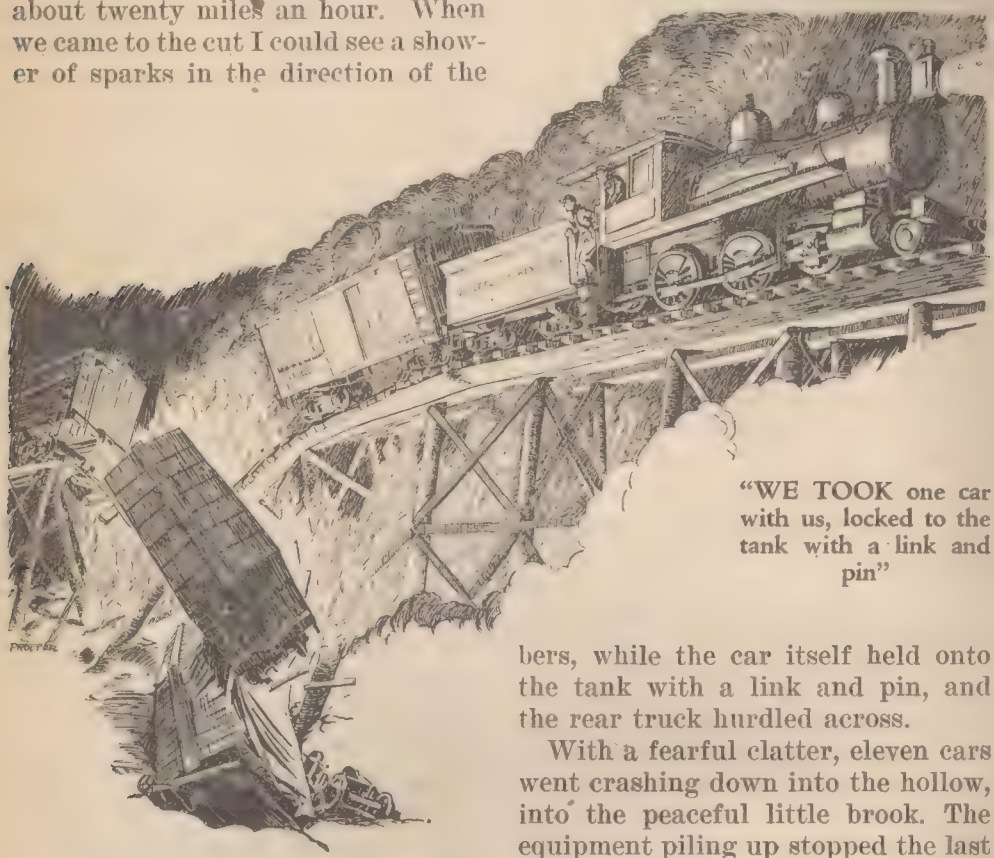
Within sixty-five feet of this trestle a fairly high cut shut it off from view. When we began slanting down the hill I noticed a bright light in

Last Time It Was the Chesapeake & Ohio's 2-10-4

SURPRISED to see a truly handsome streamlined engine on the Pennsylvania Railroad, recently? She's the Norfolk & Western's newest 4-8-4, Number 610, just out of Roanoke Shops, doing her stuff for design-weary PRR officials.

Mainly, their eyes are glued to her two-mile-a-minute clock. Sounds like an optimistic bit of hardware, that, in view of her seventy-inch drivers. But the fact remains that she turned up 110 miles an hour on a test run out of Crestline, Ohio, the other day, hauling sixteen passenger cars. Nice going, and a forceful reminder that, given a good boiler, and the right amount of lead in her counterbalance pockets, a locomotive doesn't have to display a wheel arrangement like a battle-scarred crawfish to get over the road these days.

the sky, but, aware that section men often burned old ties along the right-of-way, I did not give it a second thought. We rolled down the hill about twenty miles an hour. When we came to the cut I could see a shower of sparks in the direction of the trestle, which I suddenly realized was burning. Not only that, but it must have been aflame for a long time, otherwise there would have been no sparks.



"WE TOOK one car with us, locked to the tank with a link and pin"

With a yell at the engineer, "The bridge is on fire!" I rushed out of the cab and down to the tank steps to jump off; but in the time it took me to reach the steps I saw the bridge timbers below and knew that if I leaped I would almost certainly be killed. Trembling, I got back between the locomotive and tank. The only thought in my mind was this: *The engine might get over.* I stood watching until we hit the burning trestle. The engine seemed to sink a little, but the cars rammed us on. We took one car with us. Its front truck dropped through the charred timbers, while the car itself held onto the tank with a link and pin, and the rear truck hurdled across.

With a fearful clatter, eleven cars went crashing down into the hollow, into the peaceful little brook. The equipment piling up stopped the last car and the caboose. Thereupon the flagman, running back with his lanterns, flagged the second section that had been following us by a ten-minute margin. Our trainmen had been riding either the engine or the caboose, so none of us were hurt; but a trespasser met death. Soon the wreckage caught afire. We snatched the bucket out of our tank box and, with water from the stream, quenched the flames.

WRECKING equipment consisted of a flatcar with blocks of various lengths and thickness, also re-railing shells, chains and other

things scattered on it to weight the car down, an upright pole with rods running from the top to brace it, and block and tackle at the top. The latter was attached to a movable boom, through which ran a heavy rope with a hook on the end. This was made fast to anything they desired to move, and the other end secured to a locomotive. When the engineer received a signal, he moved the engine the necessary distance to pull whatever was fastened to the rope. In this way derailed cars and engines were hauled back on the track. It took some time to clear the wreckage that I have mentioned, but eventually bridge carpenters repaired the trestle and traffic began moving again.

In the period of which I write there were no restaurants along the hundred mile road. You couldn't buy anything to eat except such food as cheese and crackers or canned goods, obtainable at a small country grocery store. We made a point of stocking up with provisions at the terminals so we would not run short. But now and then something unexpected happened to delay us badly; at such times we just tightened our belts and waited till we got back to civilization. A few years later, people began serving meals to the railroad trade. By sending a message ahead you can now have dinner brought down to the depot, where it will be waiting for your arrival.

Running along the river on a summer evening was delightful. The water was generally low. Here and there fish could be seen jumping into the air, and for miles freshwater terrapin would be dozing on flat rocks above the water. I often wished I could get hold of some of them for soup.

We were called to leave at two o'clock one morning on a second section of train 70, each train consisting of fourteen cars of coal. In Finney, at the foot of a four-mile grade, when two trains followed each other closely the first would get water and pull up. Then when the second train was ready, it would couple to the other one and both would start over the mountain. If they stalled—as they almost invariably did—the second train would cut off some of its cars, take them along, and push the other train over the hill. Then it would set its remaining cars on a siding at the top of the grade and return for its rear.

At the top of the hill was a fairly long tunnel. We stopped there with part of the first train in the tunnel, thinking we were stalled. What we did not know was that the engine of the first section had broken eight of her cars off, had gone on over the hill, had stopped in front of the station there, and had then found the train was broken in two. After setting hand brakes on our rear, they cut off six of our cars and we started with them and part of the train in front of us.

It was a very dark night. As we turned the hill, the conductor of the front train pulled the pin between the caboose and engine. Down they rushed, striking the front half with terrific force.

Following closely, we ran into it all, smashing in the front of our engine and setting the caboose on top of her, besides crushing more of the cars. To make matters worse, the cars and caboose caught fire. The men were on the ground, looking at the burning caboose but not knowing that anyone was inside. At that moment, out of curiosity, I climbed up

on the platform, opened the door and looked in. I was startled, indeed, at what I saw. The conductor had been thrown behind the stove, in a dazed condition. He was pawing at the air and his clothes on fire. Yelling at the boys on the ground, I rushed in and pulled him from behind the stove, slapping the fire out as I did so. After that we took him to a hotel. He was laid up for about three months.

LATER, I caught a work train for a job on Bull Mountain. Often on such jobs we did not move for a long while—unless a train coming along wanted to get by, in which case we ran to the nearest siding until it passed, and would then return to our work.

While we were stationed halfway up the mountain I spied a cow in the clearing beside a small log cabin. Wanting some milk, I walked up the hill to the house. In all my life I have never seen a more primitive home. There was only one room, with an earthen floor. At one end was a heavy stone fireplace, out of which the wood ashes had been pulled onto the floor. A young man, his wife and a baby occupied the place. Their furniture consisted of a bed, a table, and two chairs made out of wooden crates.

Engine and train crews on the N& W at that time generally lived on the caboose and did their own cooking when they were at the opposite end of the road from their homes, or lived in regular boarding-houses; but a few stayed in town or at other places where they could find accommodations. I boarded with an old hill-billy named Anderson, who had a cabin and garden well up the mountain behind the tank at Norton. I mention his garden because of the good meals he served from it.

In July, 1896, a number of us were marooned at Norton by a shortage of work. There was very little for us to do to occupy our time, so you can imagine how glad we were to learn that the Louisville & Nashville planned to run an excursion from Norton to Big Stone Gap, Va., where a Fourth of July celebration was to

BLUEFIELD garden of 1902 presents a strange contrast to present multi-railed yards, with their acres of hopper cars aligned beneath precise catenary

be held. The same operator at Norton served both the L&N and the N&W, so one of the latter's men asked him to request the L&N dispatcher to give twenty-five N&W employes, including myself, a pass to Big Stone Gap and return. The dispatcher agreed, with the result that a group of us had a most enjoyable day. Such cooperation between different roads, examples of which may be seen even today, augurs well for the railroad industry as a whole.

After I had been firing for three years, I was promoted to the right-hand side. On August 31st, 1896, I passed the trainmaster's test on rules and orders, and the next morning I was examined by the Road Foreman of Engines on my mechanical knowledge. A few hours later I was given a switch key and a message for the call office to mark me up as locomotive engineer. I shall never forget how happy I was. I had achieved my goal! Ahead of me lay many years of the kind of work I wanted to do more than anything else in the world. That same day, September first, I was on my way to Norton in charge of a locomotive.

Some months afterward, an eastbound train was ditched on Bull Mountain at Virginia City, Va., about eighty-five miles from Bluefield. Several cars were tossed around the landscape as if by a giant hand, and the head brakeman went to glory. I pulled the wreckage train out to the scene. It was a rough night, twenty degrees below zero, and the men suffered greatly working in the bitter cold. About daylight they finished the job and we started for Bluefield.

Our engine, Number 557, ran backward. Her cab doors fitted so badly that they let a great deal of cold air into the cab. The fireman and I climbed up on top of the boiler to keep warm, watching the track through the little windows over the top of the boiler. The fireman would jump down every now and then, throw in some coal, and then scramble back on top of the boiler with me. At Honaker we had gotten so cold that I stopped the train and we went into the depot to warm up. At Richlands, which had a wye, we turned the engine, and thereafter kept warm for the rest of the trip. Along the Clinch River a mist had frozen over the trees and bushes, and when the rays of the rising sun shone upon them, with their load of ice, they sparkled like diamonds. That was a beautiful sight.

On another wintry day I was pulling a freight eastbound from Norton when snow began to fall. Soon the sheet of white became so thick that I could not see more than a few yards ahead. Near a small station I unexpectedly ran into a drove of sheep bunched together on the track. Later, after pulling into the terminal, I made off a stock report, making a notation, number unknown. The next time I saw the Road Foreman of Engines I asked him how many sheep I had killed.

He said: "You must have killed every one in Wise County. The reports are still coming in."

ENGINES of those days were small, with none of the improvements of today, such as feedwater heaters for heating the water before putting it into the boiler, superheaters for eliminating moisture from the steam, automatic lubricators with no need of adjusting by the engineer, sand blowers for blowing sand out of the sandboxes down on the rails, and

WORK TRAIN, headed by American type of the kind used for many years on passenger trains on the Clinch Valley. This gang was lining Little Tom Tunnel through Bull Mountain when photo was made in 1898

air apparatus for handling the reversing gear, besides automatic stokers. As for electric headlights that throw a powerful beam of light a long distance along the track, we had never heard or thought of them.

Cars of forty years ago also were small. The largest coal cars we had only held twenty or twenty-five tons. They had little drawheads, through which ran an iron rod with blocks and springs, and an iron key that kept it in place. When we pulled one out—which we did occasionally—we had to get a new bar or key and put it back in the car. We carried all such repairs in the caboose.

Larger engines began to come just before the turn of the century, but what we thought were big engines then are pygmies compared with modern Mallets. The first automatic signals I ever saw were on a miniature railroad at the Pan American Exposition in 1901 at Buffalo, N. Y., where they were being demonstrated. The first Mallet I ever saw was at the Jamestown Exposition in Virginia in 1907.

Tracks of today are far superior to those in use when I went running. Present-day roadbed is rock ballast, with heavy steel rails having an iron plate on each tie on which the rails rest, and iron braces against the rails around all the curves, making it almost impossible for the rails to spread. Forty years ago, rails were light, with no plates or braces to hold them, and resting on cinder ballast. Spread track was a frequent cause of derailment.

One day we were going west with a doubleheader and a train of empties running about fifteen miles an hour. As we rounded a curve just west of Castlewood, the track spread. In a few seconds the second locomotive was laying partly turned over, with several cars off the track. My tank was derailed, and the engine drivers on the high side of the curve were raised about three inches in the air. When the wreck cars came, they put down shells for my tank and I pulled it back on the track. If the tank had turned, I would not have had much chance of getting out.

On another run, while we were heading out of Norton we had orders to pick up two empties at Ramsey. When we got there I saw some camp cars of a bridge-repair gang in front of the cars we were to get. The men, who had their dining-car as well as their bunk cars in the string, were seated at the table eating dinner. Now, I have seen some men who thought it great sport to handle such cars roughly, but I did not feel that way. When I went into the siding I coupled to the cars as easily as I could. Then I pulled them out, setting the two cars up the main line to my train and putting the camp cars back on the siding. During this operation, the men said later, I hardly spilled any coffee out of their cups. When I got coupled to my train the foreman's son came running out with two fried pies in his hand, which he handed up to me.

NOW I come to an experience that I'd never had before and have had but little since—a foaming engine. Clinch Valley water is good and gave me but little trouble. Coming east on the second engine of a double-header, we made a successful run to Richlands, Va., leaving there up a heavy grade to Pounding Mill. Up this grade the engine commenced to foam, but I did not notice it then.

PRINCETON AVENUE, Bluefield, looked like this when I first saw it. Depot is at right, Bluefield Inn on the left. The latter was turned into N&W Division offices some years later

At Pounding Mill, where we had to take water, I shut the throttle off at the same time trying the ton gage, the second gage, and the bottom gage, but getting only dry steam. Pulling the throttle open, I rocked her with the reverse lever; still no water. Then, putting the blower on to keep the fire away from me, I pulled open the firedoor and looked at the crown sheet. Steam was blowing out of the crown bolts all over the sheet. I yelled to the fireman:

"Get away from here! This engine is going to blow up!"

He lost no time in galloping down the road as fast as he could go. Meeting the conductor, he imparted the warning, with the result that the skipper joined him in the race.

Meanwhile, I edged out along the running board and kicked the release valves open on both steam chests. Then, hurrying back into the cab, I pulled the throttle open to get the pressure off. She had 145 pounds of steam in the boiler. After that I grabbed the bucket which we always carried on the tank, and filled it with water. My one idea was to quench that fire. If ever a man's hair stood up on end, mine did. Every time I threw a bucket of water on the fire, I expected to be blown back over the tank.

After I had killed the engine, I reported the narrow escape to the dispatcher, who thereupon told the conductor to set part of the train off and haul the engine into Bluefield. Burning a locomotive was a dischargeable offense, so next morning I went down to see the Road Foreman of Engines, James Cary, to explain the circumstances.

Locomotive boilers on the N&W were supposed to be washed every ten days; it developed that my engine had been run nearly a week over that time and was full of mud. The Road Foreman—for whom I had previously fired—wrote a nice letter to the Superintendent of Motive Power in Roanoke, saying that I should be commended for the prompt course I took to save the engine when I found out the trouble. As a result, I got off light.

I was going west one night with just the engine and a caboose. Traffic boomed. They were running crews to the other end of the road to bring the loads back. I was given a meet with five sections of train Number 70 at Carterton, Va., and when I arrived there it was about four a.m. Pulling into the siding, I halted at the lower end. Worn out, my fireman lay down on the cab floor and fell asleep at once. The caboose crew were already asleep. I also knew that if I sat down, I would also be in slumberland. So, after looking at the fire and seeing there was plenty of water in the boiler, I got off the engine and walked around the field at the side of the track until all the sections had gone by. Then I got back on the engine and pulled out.

Many times trips were a torment, due to loss of sleep. The "hog" law has since changed all that. One time, while coming east, I was so worn out that I fell asleep at Five Oaks standing on my feet. I leaned against the boiler with my hand on the throttle and didn't wake up until I had turned the hill. I was then bewildered. It took me some time to realize where I was.

SUNDAY trains on the Clinch Valley in that era were few and far between, on account of a Virginia state law requiring all trains run on the Sabbath to be hotshots of at least partly livestock or perishable goods. However, on the Pocahontas side there were many Sunday trains, because that line had coal mines for miles, and the Sabbath was used to clean up all loads that lay at the mines and to fill the delivery trucks full of empties for Monday's works. All available extra engineers were called from the Clinch Valley to help out on the Pocahontas on Sundays.

One Sunday I was called to push a regular Elkhorn crew that was going over in the field. It so happened that they ran me around an extra Clinch engineer, Charles Honaker. When Mitchell, the chief caller, found it out, he protested vehemently, then assigned him to the pusher that I was on and changed me to the head end of the following crew.

I took my train over in the field, delivering the cars at the various operations, and then got my loads to bring back. At Ennis, the foot of the mountain, was the start of single track which extended to the top. And at the top was Elkhorn tunnel, nearly a mile long, having a fairly heavy grade through it. The tunnel had no artificial ventilation. It was a veritable "Black Hole of Calcutta." When the men started through on engines they would cover their heads with jackets or wet a bunch of waste and put it over the mouth and nose. Exhaust from the engines, with smoke and gas, was terrible. Often the men came out gasping for breath. Their clothes felt as though they were on fire.

When I stopped at Ennis, there was gloomy news. The train for which I'd been first called had stalled in the tunnel. Head Engineer Kennedy had been carried out dead and several trainmen had been overcome by fumes.

Engineer Honaker had stayed in the tunnel until he could stand it no longer. Then he reversed his engine, breaking off several cars from the train, and backed out. Fortunately, the train did not follow him back; if it had, there would have been a tragic runaway. This incident brought on a strong demand for ventilating fans, which eventually were installed.

Coming out of Norton not long afterward, I got another locomotive in exchange for one I had taken there. As soon as we started, I know the second engine was in bad condition, pounding badly in her boxes. Why they ran out such a piece of junk, I do not know. Somehow she held together until we left Richlands. Every time we stopped I would tighten the bolts to the collars, but that did not seem to do any good. Above Cedar Bluff, one by one, the collars flew off on the right side and were lost. After the main collar had gone, I was finished. I put the engine on one side and brought her in that way, making out a form CT 25 and the work report to the roundhouse. But I never heard anything about it, nor what the brass hats said to the shop people. It was the only time in all my experience that I had to put an engine on one side for that reason.

ALONG the slopes on some parts of the road grow thickets of rhododendron. These flowers, blooming in the spring, presented a gorgeous sight with their waxy green foliage and varied colors, adding to the beauty of the landscape. Here and there you could see wild crabapple trees, their white and pink blossoms filling the region with perfume. I often thought that if God made such lovely things on the earth, what must Heaven be like?

But natural beauty does not always soothe the troubled spirit. About four o'clock one afternoon on a westbound trip, eighty miles from Bluefield, the conductor was standing in the cab behind me when I had a hunch that something was wrong at home. Beautiful scenery suddenly ceased to thrill me. Everything had seemed all right at home when I left

in the morning, yet I now felt uneasy. I told the conductor what worried me; and he tried to jolly me out of it, but the farther west I went the more anxious I became.

The next day, when I arrived home, I found my wife down with typhoid fever. She said she had been taken sick about four p.m. the day before, and that with our two small children clinging to her crying, she had felt so bad that she concentrated her mind on wishing me home to help her. She made me feel it, too, eighty miles away. I am glad to say that she recovered, after being ill for nearly a month. Since that incident, I have taken premonitions more seriously.

A long time after that, I had a dream in which I thought I was running engine 153 and she turned over and killed me. The next day I reported to the roundhouse, not knowing what locomotive I would get, and was given the same one I had handled in my dream. Even that did not disturb me. After telling some of the boys about the nightmare, I made the run. Rain had been drenching the earth for several days and the whole outdoors appeared to be water-soaked. At some places I had to proceed with caution. But whether or not the dream had been sent to me as a warning, I cannot say. Nothing tragic happened on that run, and if I had a narrow escape from death that day I am still unaware of it.

When I started running, each freight was pulled by only one engine, but in course of time all the freights, except shifters and locals, were doubleheaded. At first the two engines were coupled together; and then, on account of so many bridges and trestles, the machines were spaced with ten cars between them.

When someone happens to mention "carelessness" my mind goes back to a break-in-two near Coeburn, Va. I was on the head engine that day with ten cars of time freight, while the second locomotive had ten cars of coal behind her. We were going to get the filler at Coeburn. However, when I looked back just after rounding a curve, I saw that the cars of time freight had become separated from the other engine. Blowing the "broke loose" signal—three long whistle blasts—I opened the throttle wider to keep the second engine from running into my cars.

Finally I stopped at the end of a fairly long straight line on a slight down grade, for I could see back for some distance and I saw the rest of the train rolling slowly around the curve. The head brakeman got off my engine and went back to the end of our cars, as we had to couple the other engine to them. When they got closer, I called for a signal and the brakeman waved me down. A few minutes later I saw him running from the track. Then I opened up, trying to get away, but it was too late. The second engine rammed the cars of time freight with such force that we had to set a number of them off at the next station.

It was then daylight. The conductor came over, with his lantern in his hand—why, I don't know—and when he saw the damage caused by carelessness he was so angry that he hurled his lantern against a car, smashing it to pieces. Both the second engineer and the conductor were given thirty days' suspension. Years later, this same runner was on an engine that blew up on Tip Top hill, killing the front brakeman, badly burning the fireman, and disabling himself.

One night while heading west I got close on the time of Number 84, a redball freight, and had to pull in at Cleveland, Va., for it. Although this place had two sidings, neither was long enough to hold my train; so I pulled through the station siding out on the main line at the west end until I got the caboose in the clear. Then the brakeman cut off the cars that the siding wouldn't hold, and I pulled them all out onto the main, backing them into the small siding on the opposite side of the track. As soon as I got into clear, he opened the switch for the main stem.

I had a habit of watching the brakeman to see that he worked safely, and this was one time when my caution paid big dividends. The fellow had already "bent the iron" for the main line at the station siding so I could back over; but, apparently not thinking of this, he walked down to the switch and lined it up for the siding. When I gave a shout, he saw what he had done and quickly threw it back. None of the Clinch Valley switches had lights on them, and I was too far away to have noticed the position of this one if I had not been watching the brakeman. Since we had no automatic signals at that time, Number 84 might have plunged into those cars with terrible results.

TWO CREWS of doubleheaders were called to follow each other out of Bluefield one night. The first crew had twenty small coke racks; the second, ten empty boxcars. I was on the head engine of the second crew. The first crew pulled out at Tazewell at one a.m. I left the same place five minutes later.

Across from Tazewell to Pisgah was favorable running ground, with no fear of rocks or slides. I knew the first train would make good time and intended to do the same myself. But trouble lay in wait. As I have said, the Norfolk & Western did not have automatic signals in those days; consequently, there was nothing except the flagman to give warning if and when the other train should stop. Now, Pisgah had a siding long enough to hold only about ten cars, its switch point facing eastward. For some reason or other, this switch had been set for the siding. The first train, running fast, entered it at high speed and ran clear through and into a swamp that lay near the far end, the engines burying themselves in mire up to the running boards.

They made a stop so rough that they jarred out all the caboose lights except a red lantern on the back platform. Seizing that lantern, the flagman, James Hambrick, ran back to get me stopped. As soon as he arrived where I could see him, he gave a vigorous back-up signal. I promptly "big-holed" her. Luckily, all of my brakes that night were air; but although I threw them into emergency position, I kept running and nearly scraped the rear platform of the caboose before I could get stopped. When the flagman came up, I asked what was wrong.

"I don't know," he gasped. "We made a terrible stop. I wouldn't be surprised if everybody on the front end is killed."

With that, I left my engine in charge of the fireman, grabbed my torch and ran up to the partly submerged locomotives. The engineer of the second was standing in bewilderment on a low bank. He could not tell me what had happened nor where I could find the rest of the crew.

"Come on!" I said. "Let's look for them!"

THESE were the boys who kept the track aligned for early N&W hoggers. Crank-driven section cars enjoyed some favor at turn of the century

Hurrying over to the head engine cab, we found it empty except for the fireman, who was still on his seat-box and unhurt. But both Harry Cohn, engineer of the head engine, and Fireman Davidson of the pusher had been killed. We did not find the runner's body until the next day, buried in the swamp.

The conductor sent a flag back to Tazewell to report the wreck. Coupling to everything that we could move, we backed to Tazewell, and stayed until the wreck cars came and cleared the track. Then we went on to Norton, where I dispelled rumors about my own death that had begun to circulate.

Yes, I had plenty of narrow escapes in my forty-eight years of engine service. I'm thinking now of the early morning I pulled a time freight to Norton on a lap order. We made a good run. At St. Paul the order board was out, and we received an order giving us right over Number 70 from St. Paul to Norton. The latter train was due to leave Norton at two a.m. We rolled into the terminal at 2:15. As we passed the yard office, one of 70's engineers climbed into my cab and inquired:

"Al, how did you get here?"

"I got here by my orders, of course," I answered in surprise.

"No, you didn't."

At this I bristled. "I should know what I'm running on," I said stiffly.

When I got in the office, I saw Number 70's orders. We had right

over them to Coeburn, a lap of ten miles! The dispatcher and the operator at Norton had it Coeburn, while the operator at St. Paul had it Norton. The St. Paul man was discharged. Number 70 had been ready to pull out on time when something went wrong with the second engine; they had to cut off and take her to the spark track for minor repairs. The road between Tacoma and Norton, seven miles, is the most crooked piece of track on the Clinch Valley. They had thirty-three cars of coal, while we had thirty-nine loaded box cars. You can easily imagine what would have happened if we had met. That disaster never came to pass. I can't see anything in it but the hand of God.

AFTER LEAVING Norton one Sunday morning with a time freight train, Number 86, we reached Cleveland to find the order board against us. In those bygone years, the arrival of a train at a country depot was a far more important event than it is today. The railroad station was a social center and it was not unusual for a fair-sized crowd to greet an incoming train.

On this particular Sunday I noticed among the people assembled on the platform two men, each holding a small boy of about ten years by the hand. The way those lads kept looking at the engine, as if in fascinated terror, and pulling away when the noise of the air pump exhausting from the stack grew especially loud, led me to believe that neither of them had ever seen a locomotive before. That must have been a fearful and wonderful day in their lives. When I blasted my whistle to call in the flagman, those two youngsters jerked loose from the men and ran down the country road as fast as their little legs could carry them. A gale of laughter came from the crowd. If either of those two fellows is alive today and reads this, I hope he will get in touch with me.

On another run, with a coal train, the left back knuckle joint of the engine kept working loose. Do what I would, I could not keep it tight. Upon leaving Tazewell, we had a hard pull of about nine miles to Tip Top, where we had a meet with Number 85, a westbound time freight. About a mile and a half from Tip Top, the knuckle joint caught under the main driver's hub, ripping the left side-rods to pieces.

When I got down and saw the damage, I felt worse than disheartened. It was twelve degrees below zero. I worked desperately to get the rods down, until I was nearly frozen. Then, still unable to remove them, I told the other engineer of our doubleheader to push me to Tip Top with the side-rods dragging on the ground.

We were stuck there for a long while. Our conductor called the operator and was instructed to cut the engines off, after pulling into the siding at Tip Top. Later, the Superintendent handed me five days on my record for this delay.

Most of the time it is a joy to be out on the road. Running through part of the blue-grass region of old Virginia, with cattle here and there and farms along the road, noticing people at their various occupations, fills you with the zest of life. As you listen to the exhaust of an engine dragging her load, you feel that you are part of it all, and that life is really worth while.

Next month I will conclude my life-story of forty-eight years on the Pocahontas Division with some unusual incidents of long ago.

Photo by John H. Mills, Jr.

OILING AROUND is part of the ritual preceding every run. The engineer, John H. Kistner, 7319 Kimbark Ave., Chicago, has been on the Illinois Central forty years

Annual Speed Survey

MORE THAN a century has elapsed since the railroads began recording bursts of speed in excess of sixty miles per hour. Until 1936, however, no serious effort was made to analyze in detail the mile-a-minuters as shown in the operating timetables. In '36 we issued our first comprehensive survey of passenger-train speeds in the States and Canada. The past eight years have shown amazing gains, as

a whole, despite the war.

But before going into 1944 figures, let's glance back to the earliest known railroad speed of sixty mph. Turn to an ancient book, *Railway Property* by John B. Jervis, out of print for many a year, in which the author tells about his *Brother Jonathan*, the first locomotive ever built with a four-wheel leading truck. A man named David Matthew had charge of constructing the Jervis type in 1832.

"With this engine,"

By DONALD M. STEFFEE

Matthew is quoted as saying, "I have crossed the Mohawk & Hudson from plane to plane *fourteen miles in thirteen minutes,* making one stop for water."

That was well above sixty mph. We have yet to find evidence of any engine or train attaining such speed prior to 1832. And now, with seven-league boots, we step over the intervening century to the year 1944, our tenth year of streamlining and our third of World War II. The railroad industry has good reason to brag about its sleek, streamlined, speed records and the huge volume of its traffic; but in these grim days of global conflict its proudest boast is the men and material it is moving relentlessly to the front. A decade of streamlining the motive power, rolling stock and operating methods, plus long-range planning, has resulted in the current great achievements that many critics deemed impossible a few years ago, prior to the war.

To appreciate better the part our carriers are playing in the march to victory let us recall briefly the period in the United States immediately preceding the *first* World War. Ultra-cautious managements had then been stripping their once-vaunted passenger services almost to the barest necessity in both speed and frequency, besides allowing their redball freight business to deterio-

PASSENGER SERVICE before the attack on Pearl Harbor was dignified and leisurely, as exemplified by pre-war glimpse of the Milwaukee *Hiawatha* on page 36. Even the porter seems to have all the time in the world. Contrast that with the present-day "mob scene" at the NYC ticket office in Grand Central Terminal; presumably all the people shown here are about to travel on urgent wartime business

rate; and thus had sowed the seeds of fierce competition from other forms of transportation that was to overtake them in the late twenties and early thirties.

In one sense you might say that the American rail giant was in a defeatist mood in 1917 when it faced the task of getting troops, munitions and supplies "over there" to beat the Kaiser. Operations were hamstrung by pedantic Government officials and pompous Army officers who didn't know a brake beam from a poppet valve. No wonder the railroad machine broke down and had to be taken over by President Wilson.

Then in December of 1941, the United States entered the present war with some misgivings as to how the machine would meet the far more difficult task imposed upon it by the attack on Pearl Harbor. As we all know, these fears have proved groundless. Railroad men are cooperating splendidly with the Office of Defense Transportation, the Interstate Commerce Commission and other Federal agencies in creating a science of moving the armed forces in numbers and comfort undreamed of a generation ago. And instead of being lined up on sidings for hundreds of miles from the seacoast, tanks and airplanes and guns are being whisked to ports for outgoing shipment with well-oiled efficiency.

Canada's two big rail systems likewise are doing their full share. The extent of their all-out effort may be gaged from a CNR advertisement, issued in 1942, which stated, "The Canadian National is Canada's greatest single war industry," while the Canadian Pacific also has thrown its resources into the fight.

Today, in America, the carriers do not struggle against inadequate single-track main lines, short sidings

CHICAGO & EASTERN ILLINOIS No. 1008 wheels Florida-bound ***Dixie Flagler.*** The line has reason to be proud of its 667 miles of start-to-stop runs at 60 mph or over

This shot and those on pages 44-45 and 138 from RR. Photo. Club, 47 Royal St., Allston, Mass.

REPLACING Diesel power, and telling the world about it through her stack, Missouri Pacific 4-8-4 No. 5324 wheels the ***Colorado Eagle*** past California station, in the Iron Mountain State

and yards that clog on the slightest increase in traffic. On the contrary, many large systems have availed themselves of that magic wand of single-track railroading known as centralized traffic control, which virtually brings the line up to double-track capacity. Many more miles of main stem are being double-tracked, while sidings are lengthened and yard capacities doubled or even tripled. Some passenger and freight stations, too, are being modernized, while better methods of service to both traveling and shipping public are under way.

These improvements help to explain the continued, brilliant, top-speed performances shown by nearly all roads listed in our 1944 speed survey. Not only has the Burlington maintained its 84-mph world's record schedule from East Dubuque to Prairie du Chien, and the Missouri Pacific, its runner-up, an 80.5-mph dash across the Kansas prairies from Eads to Horace; but, with few exceptions, all the other systems have maintained or bettered their 1943 schedules.

GI JOES pile into an Illinois Central train that appears to be already filled up, but the harrassed conductor can't do anything about it

The trend toward maintenance of speeds as high as possible under present conditions is reflected further by roads not appearing in the present survey. For instance, the Kansas City Southern-Louisiana & Arkansas combine, after drastically decelerating the *Southern Belle* in 1942 and again in 1943, have reversed this policy. Latest figures

THE *MILWAUKEE LIMITED*, on the high-speed Skokie Valley route, contributes a large share of the 1597 miles which the Chicago, North Shore & Milwaukee skims over at the rate of at least 60 miles per hour

show a reduction in running time, the present northbound New Orleans-Kansas City schedule being thirty minutes and the southbound twenty-five minutes faster than at this period last year. While the train has not yet regained its mile-a-minute timings, we predict an early return of the Kansas City Southern to our tabulation.

The streamlining of present-day railroad philosophy, so to speak, is evident in the forecast of far-reaching betterment in equipment, com-

THE *SOUTH WIND* adds to the laurels of the Atlantic Coast Line on her Chicago-Miami run

fort, and speed in the immediate post-war period. A hint of these plans already has been announced by railroads, together with locomotive and car builders. As soon as peace gives the highball, new motive power and rolling stock will take to the rails, embodying the technicological gains now being worked out in all phases of operation.

Consider the Great Northern. This pike promises to use five streamlined trains on its *Empire Builder* run to the Pacific Coast, with a schedule expected to bring Seattle within forty-five hours of Chicago. Both the Milwaukee and Northern Pacific undoubtedly will make some reply to this move, while the rival Canadian systems will have to revamp their schedules or lose some of the lucrative Chicago-to-Vancouver business now moving via Winnepeg—business which will be attracted via Seattle when the new trains go on.

The Chicago & North Western will extend its "400" service to the granger territory in Minnesota and the Dakotas, while Santa Fe rails from Oklahoma City to the Gulf Coast will hum to the wheels of new lightweight speedsters. At the same time, the Louisville & Nashville is contemplating modern streamliner service for the Cincinnati-New Orleans run; and other lines too numerous to mention here are inquiring for streamlined power and rolling stock. We venture no prediction of the heights to which the figures of our future surveys will rise.

With this picture before us, we need not wonder why our final figures for 1944 show an increase of runs and miles scheduled at sixty mph or better over the 1943 totals. While the grand total of 77,962 miles, embracing 1477 separate runs, has not regained all the ground lost since 1942 and is well below the record 85,645 miles and 1526 runs of 1941, it is a triumph no less real than those now occurring on the battlefronts. Furthermore, we thus have ample proof that the Nation's railroads are fighting shoulder to shoulder with the armed forces against the Axis.

Turning for a moment to the Dominion, we are confronted with the strange spectacle of the Canadian Pacific, "World's Greatest Travel System," being represented in our

speed survey solely by a lowly gas-electric motor car! Number 340, a local "doodlebug" flashing across 10.2 miles of Saskatchewan prairie from Pasqua to Belle Plain in ten minutes, now claims the fastest schedule on the entire system! Steam runs in the Toronto-Windsor region formerly listed have been eased out and are now below our sixty-mph minimum standard.

Another oddity lies in the fact that this is our first tabulation in which a New England road fails to appear. The New Haven has relinquished the "Sunday only" Saybrook-Madison run, which, since the demise of the *Comet* as a fast train, was its lone entry. And the Boston & Maine streamliner no longer cuts the sea breezes on the Boston-Portland run. Instead, it appears as the *Cheshire* on an entirely new service between Boston, Fitchburg, Bellows Falls and White River Junction. While unproductive of mile a-minute timings, the schedule is a notable improvement on any previous run in this area and may well foreshadow a long-needed streamlined service between Boston and Montreal.

What a different picture unfolds as we turn to the Eastern trunk lines! The New York Central's *Advance Water Level Limited* was placed on the New York-Chicago run just after completion of our 1943 survey. This has been followed by a new Buffalo-New York flyer bearing the historic name, *Henry Hudson*—a name which has christened several New York Central trains in recent years—and the *Advance Knickerbocker*, between Boston and Buffalo, in addition to an all-coach train between the Hub City and Chicago, aptly called the *Paul Revere*. All these trains contribute to the recapture of about half the Central's loss from 1942 to 1943, despite a further drop in Michigan Central figures.

Never do we eulogize on the Pennsylvania's performances between New York and Washington but what the road, whose slogan is "Serving the Nation," calmly pulls a few more of its famous GG-1 electric engines and additional dozens of coaches out of the hat and dispatches them as second and third sections of extra units of its mighty fleet.

PROUDLY bearing the Florida East Coast emblem on her nose, the ***Dixie Flagler*** crosses St. Lucie River, about midway down the Florida peninsula

This year several more Pennsy long-distance flyers, notably the *Golden Arrow*, from New York to Chicago, and the *American* and *Jeffersonian*, on the St. Louis run, have

BESIDES their mechanical check-up before each run, streamliners are thoroughly cleaned, both inside and out. In this case the job is being done on the ***Daylight*** at San Francisco

been augumented by second sections. Thus both electric and steam power aid materially in boosting the Pennsylvania figures to the awe-inspiring *world's record total for a single system* of 23,975 miles and 466 separate schedules! These do not include the runs of many extra trains operated over the week-ends, the figures for which are not available.

The Lehigh Valley is a modest contributor to our tables. "The Route of the Black Diamond" improves its showing by two short spurts between Flemington Junction and Manville, N. J., an important war plant center near the eastern end of the line. Separate mail and express trains, operating for some time as extra sections of regular trains on the Baltimore & Ohio between Washington and Chicago and between Washington and St. Louis, are now assigned individual numbers and places in the timecard. Several of these come very close to mile-a-minute status on some divisions. As soon as delivery is taken on new Diesel locomotives (expected about the time this analysis sees print) the all-coach *Columbian* on the Washington-Chicago run will be changed over from steam power and will fill out from a present seven- or eight-car train to fourteen cars daily.

About the only recent excitement on the Florida front was the scramble of an ever-growing mass of none-too-patriotic winter vacationists for an ever-diminishing number of seats and Pullman berths. The decelerated schedules effected late in 1942

TWILIGHT ON THE HUDSON RIVER. The train is the New York Central's crack *Commodore Vanderbilt*, the engine is Hudson type No. 5422, and the location is Peekskill, N. Y.

changed but little. Further slowings on the Seaboard Air Line north of Jacksonville are balanced by minor speedups on the Florida lines of that system, under which the northbound run of the *Silver Meteor* from West Palm Beach to Sebring is quickened from ninety-five to eighty-eight minutes — only three minutes slower than the crack 1941 time of eighty-five minutes for that amazing run of 102.6 miles.

The Mississippi Valley region comes up with a couple of surprises. Most important is the fine showing of the Illinois Central, whose total figures rise to thirty-four runs, totaling 1480 miles, the highest to date on that system. Virtually the entire increase for the past year is contrib-

Photo by John Gibb Smith, Jr., 6701 N. 12th St., Philadelphia, Pa

CLAD IN ARMOR like Crusaders of old, Reading steam engine 118 stands at Ninth and Green streets, Philadelphia, after pulling the *Crusader* from Jersey City with a 62 mph burst of speed between West Trenton, N. J., and Jenkintown, Pa.

uted to adjusted timings of the *Panama Limited*. To permit more time into both the Chicago and New Orleans terminals and through congested division points, and to retain the eighteen-hour overall schedule,

the time of several intermediate runs was quickened enough to bring them within the scope of our survey. A modest Missouri Pacific local train plying from St. Louis to Kansas City steps twenty-six and a half miles from Kirkwood to Gray Summit in twenty-three minutes and so claims the top steam honors of the MoP.

It is almost unbelievable that a year should pass without a single noteworthy event occurring on any of the famous steel racetracks radiating out of Chicago. Yet such is the case. Schedules to the Twin Cities, to Detroit, Omaha, Denver, Kansas City and St. Louis, as well as on the North Shore and South Shore electrics, are virtually unchanged. The same may be said for the transcontinental lines, save for the recapture of one run from Albuquerque to Gallup, N. M., lost by the Santa Fe in 1943. This run has been brought back to 160 minutes for the 160.3 miles.

The conclusion may be drawn that the lengthening of time on these vital war supply routes which was effected in 1942 and early 1943 has been found sufficient to meet present conditions. Morover, the installation of centralized traffic control, new double track and improved facilities at important division and junction points have helped time to be kept with a reasonable degree of punctuality. These schedules seem to be pretty well established "for the duration."

Yet we are not through with surprises. Two famous streamliners, which had never met our minimum standards previously, now take their

bow. These are the *Coast Daylight* and the *San Diegans,* serving the Pacific coast.

The Southern Pacific's *Coast Daylight* between San Francisco and Los Angeles has grown to such prodigious lengths that operating stops are required for helper engines over certain hilly districts. Such a stop is San Margarita, resulting in a run of 117.3 miles in 117 minutes from the point to Salinas by the northbound train.

South of Los Angeles, the Santa Fe explores virgin high-speed territory on its line to the key war center and port of San Diego. The two streamlined *San Diegans* together make four daily round trips between the two cities on a seemingly leisurely 165-minute schedule for 126.2 miles, with but two intermediate stops. However, the 50.7 miles between Oceanside and Santa Ana calls for some lively stepping. This is covered eight times daily in from forty-seven to fifty minutes.

Thus we conclude our 1944 commentary on train speeds of the United States and Canada in the fervent hope that by the time another survey is due some, at least,

of the glowing promises of the post-war era may be well along the road toward fulfillment.

Space limitations permit us to show only top performances with all types of power for each road represented in the tabulation. To do full justice to the fine runs over longer as well as shorter distances, we again present four mileage groups of start-to-stop runs: Those over two hundred miles, those from one hundred to two hundred, those between fifty and a hundred, and those of less than fifty. A complete compilation, however, furnishes the grand total which concludes our table of aggregate mileages. It is a splendid record of which the railroad industry may well be proud.

SPEEDSTERS at the Chicago terminal of the Chicago & North Western. ABOVE: Three streamliners await their turn to pull out with full trainloads of passengers. BELOW: The ***Pacific Limited*** snakes around a curve and begins to pick up speed on its daily run to the West Coast

Fastest Start-to-Stop Run on Each Road Operating Mile-a-Minute Schedules

(Where a road uses more than one type of motive power, top performance is given for each type)

MILITARY MOVEMENTS are making very heavy demands on railroad facilities in the States and Canada, but the roads work with well-oiled efficiency. Richard Kindig, an Army man himself, snapped this view of a D&RGW troop special hauled by a four-unit Diesel

Over 200 Miles

Railroad		Train	From	To	Miles	Time (min.)	Speed (mph)	Motive Power
Santa Fe	21	El Capitan (a)	Dodge City	La Junta	202.4	166	73.2	Diesel
Pennsylvania	A-152	Advance Congressional	Washington	Newark	214.6	195	66.0	Electric
Southern Pacific	101	City of San Francisco (d)	Carlin	Sparks	288.3	264	65.5	Diesel
Burlington	39	Exposition Flyer	McCook	Denver	254.2	235	64.9	Diesel
Union Pacific	103	City of Los Angeles (d)	Salt Lake City	Caliente	324.5	321	60.8	Diesel

100 to 200 Miles

Pennsylvania	1	Chicago Arrow	Fort Wayne	Gary	123.0	97	76.1	Steam
Burlington	10	Denver Zephyr	Galesburg	Aurora	124.5	99	75.5	Diesel
Santa Fe	21	El Capitan (a)	Dodge City	Hutchinson	120.2	100	72.1	Diesel
Union Pacific	2, 102, 104	Cities of Portland (e) San Fr. (d) Los A. (d)	North Platte	Grand Island	137.2	115	71.6	Diesel
Seaboard Air Line	44	Silver Meteor (EC)	West Palm Beach	Sebring	102.6	88	69.9	Diesel
Chicago & North Western	2, 102, 104	Cities of Portland (e), San Fr. (d). Los A. (d)	Omaha	Boone	149.0	130	68.2	Diesel
New York Central	25	20th Century Limited	Toledo	Elkhart	133.0	119	67.1	Steam
Missouri Pacific	11	Colorado Eagle	Hoisington	Scott City	123.8	111	66.8	Diesel
Fort Worth & Denver City-Chicago Rock Island & Gulf	3	Sam Houston Zephyr	Teague	Houston	152.0	138	66.1	Diesel
Santa Fe	7	Fast Mail Express	Hutchinson	Dodge City	120.2	110	65.6	Steam
Michigan Central	48	Detroiter	Windsor	St. Thomas	109.6	101	65.2	Steam
Southern Pacific	14	Sunbeam	Ennis	Hearne	110.2	104	63.6	Steam
Big Four	3	James Whitcomb Riley	Cincinnati	Indianapolis	108.9	105	62.3	Steam
Atlantic Coast Line	375	Havanna Special (WS)	Richmond	Rocky Mount	123.9	120	61.9	Diesel
Union Pacific	6	California Mail	Cheyenne	Sidney	102.0	100	61.2	Steam
Baltimore & Ohio	8	Shenandoah	Gary	Garrett	116.8	116	60.4	Diesel

50 to 100 Miles

Burlington	21	Morning Zephyr	East Dubuque	Prairie du Chien	54.6	39	84.0	Diesel
Missouri Pacific	12	Colorado Eagle	Eads	Horace	55.0	41	80.5	Diesel
Chicago & North Western	112	City of Denver	Carroll	Boone	52.3	41	76.4	Diesel
Union Pacific	112	City of Denver	La Salle	Sterling	93.6	74	75.8	Diesel
Milwaukee	6	Morning Hiawatha	Sparta	Portage	78.3	62	75.7	Diesel
Milwaukee	103	Midwest Hiawatha	Delmar	Marion	53.9	44	73.6	Steam
Rock Island	7	Rocky Mountain Rocket	Iowa City	Grinnell	65.9	55	71.9	Diesel
Pennsylvania	152	Congressional	N. Philadelphia	Newark	76.0	64	71.3	Electric
Santa Fe	21	El Capitan (a)	Joliet	Streator	52.1	44	71.1	Diesel
Pennsylvania	12, 56, 57	Pittsb. Exp., Liberty Ltd.	Plymouth†	Fort Wayne†	64.1	55	69.9	Steam
Illinois Central	51	Green Diamond	Kankakee	Clinton	92.7	81	68.7	Diesel
Santa Fe	10	Centennial State	Syracuse	Garden City	51.5	45	68.7	Steam
New York Central	90	Advance Forest City	Englewood	South Bend	78.8	70	67.6	Steam
Chicago & Eastern Illinois	22	Zipper	Watseka	Chicago Heights	50.9	46	66.2	Steam
Big Four	11	Southwestern Limited	Sidney	Muncie	65.9	60	65.9	Steam
Southern Pacific	13	Sunbeam	Houston	College Station	93.4	87	64.4	Steam
Alton	3	Abraham Lincoln	Joliet	Bloomington	89.4	84	63.9	Diesel
Burlington	48	Blackhawk	Prescott	Alma	56.2	53	63.9	Steam
Seaboard Air Line	43	Silver Meteor (EC)	Savannah	Thalmann	71.0	67	63.6	Diesel
Rock Island	10	Chicago Limited	Grinnell	Iowa City	65.9	63	62.8	Steam
Canadian National	15	International Limited	Belleville	Port Hope	50.2	48	62.7	Steam
Erie	16	Midlander	Hammond	Rochester	80.3	77	62.7	Steam
Baltimore & Ohio	26	Columbian	Lapaz	Garrett	61.7	59	62.7	Steam
Baltimore & Ohio	5	Capitol Limited	Deshler	Garrett	65.6	63	62.5	Diesel

SYMPHONY IN COLOR. With a vivid blue and green background of sky, ocean and grass, the Espee ***Daylight*** skirts the Pacific for 113 miles of scenic splendor on its 470-mile run between San Francisco and Los Angeles, making the entire journey in nine and three quarters' hours. This is one of the most pleasing trips that can be taken on any American road

Railroad		Train	From	To	Miles	Time (min.)	Speed (mph)	Motive Power
Chicago & North Western	88	San Francisco Challenger	Council Bluffs	Carroll	92.8	89	62.5	Steam
Wabash	21	Bluebird	Englewood	Forest	85.9	83	62.1	Steam
Florida East Coast	4	Chicago Streamliner#	Daytona Beach	St. Augustine	53.7	52	62.1	Diesel
Michigan Central	324	New York Limited	Essex (c)	Ridgetown (c)	51.5	50	61.8	Steam
Atlantic Coast Line	▶ 2	Champion (EC)	Jacksonville	Nahunta	66.8	65	61.7	Diesel
Pennsy.-Rdg. Seashore Lines	159	Atlantic City Express	Broadway	Atlantic City	57.3	57	60.3	Steam
Chesapeake & Ohio	42	George Washington (VS)	Maysville	South Portsmouth	51.2	51	60.2	Steam
Lehigh Valley	8	Maple Leaf	Depew	Geneva	93.2	93	60.2	Steam

Less Than 50 Miles

Burlington	21, 23	Twin Cities Zephyrs	North LaCrosse	Winona Jct.	26.6	20	79.8	Diesel
Chicago & North Western	156	City of Milwaukee 400	Kenosha	Evanston	39.6	30	79.2	Diesel
Milwaukee	100	Afternoon Hiawatha	New Lisbon	Portage	43.1	34	76.1	Steam
Rock Island	501	Peoria Rocket	Joliet	Morris	21.5	17	75.9	Diesel
Missouri Pacific	11	Colorado Eagle	Ottawa	Osage City	32.3	26	74.7	Diesel
Chicago, South Shore & South Bend	41	South Bend Limited	Davis	Lake Park	14.3	12	71.5	Electric
Ft. Worth & Denver City; CRI&G	4, 18	S. H. Zephyr-Texas Rocket	Teague	Corsicana	35.7	30	71.4	Diesel
Chicago, N. Shore & Milwaukee	437	Milwaukee Limited	Skokie	Deerpath	15.4	13	71.2	Electric
Union Pacific	111	City of Denver	Fremont	Columbus	45.2	38	70.9	Diesel
Milwaukee	6	Morning Hiawatha	Portage	Columbus	28.2	24	70.5	Diesel
Illinois Central	53	City of Miami (b)	Champaign	Mattoon	44.7	38	70.4	Diesel
Santa Fe	12	Chicagoan	Galesburg	Chillicothe	47.5	41	69.6	Diesel
Florida East Coast	4	Chicago Streamliner#	Vero Beach	Melbourne	33.6	29	69.5	Diesel
Pennsylvania	132	Representative	Perryville	Wilmington	32.3	28	69.2	Electric
Missouri Pacific	33	Kansas City Local	Kirkwood	Gray Summit	26.5	23	69.1	Steam
Seaboard Air Line	▮ 44	Silver Meteor (EC)	Opa Locka	Hollywood	10.3	9	68.7	Diesel
Illinois Terminal	▮ 91	St. Louis Limited	Mindale	Union	9.6	8½‡	67.8	Electric
Canadian National	2	Continental Limited	St. Annes	Lachine	12.9	11½‡	67.3	Steam
Wabash	21, 24	Bluebird	Taylorville†	Litchfield†	32.5	29	67.2	Steam
Chicago & Eastern Illinois	99	Dixie Flagler (b)	Coaler	Danville	43.6	39	67.1	Steam
Pennsylvania	23	Manhattan Limited	Bucyrus	Dunkirk	35.7	32	66.9	Steam
New York Central	43	South Shore Express	Erie	Conneaut	27.6	25	66.2	Steam
Alton	2	Abraham Lincoln	Springfield	Lincoln	28.7	26	66.2	Diesel
Big Four	435	Columbus-Cincinnati Spl.	Wellington	Shelby	30.7	28	65.8	Steam
Baltimore & Ohio	6	Capitol Limited	Kingsbury	Lapaz	17.4	16	65.5	Diesel
Michigan Central	64	Valley Express	Battle Creek	Marshall	13.1	12	65.5	Steam
Baltimore & Ohio	26	Columbian	Wellsboro	Lapaz	23.9	22	65.3	Steam
Chicago & North Western	9	Mail	Denison	Missouri Valley	43.4	40	65.1	Steam
Pennsy.-Rdg. Seashore Lines	1070, 1073	N. Y.-Atl. City Exps.	Absecon†	Haddonfield†	45.3	42	64.7	Steam
Peoria & Eastern	43	Night Express	Waynetown	Veedersburg	10.7	10	64.2	Steam
Burlington	48	Blackhawk	Alma	Winona Jct.	25.6	24	64.0	Steam
Great Northern	23	Badger State Express	Cedar (c)	Coon Creek Jct. (c)	11.6	11	63.3	Diesel
Atlantic Coast Line	91	Champion (WC)	Weldon	Rocky Mount	36.9	35	63.3	Diesel
Santa Fe	10	Centennial State	Lamar	Syracuse	48.4	46	63.2	Steam
Erie	16	Midlander	Marion	Galion	20.9	20	62.7	Steam
Lehigh Valley	23, 24	N. Y.-Lehighton Exps.	Manville†	Flemington Jct.†	14.6	14	62.5	Steam
Santa Fe	128	Local	Grenada (c)	Holly (c)	10.4	10	62.4	Gas-elect.
Southern Pacific	13	Sunbeam	College Station	Bremond	47.7	46	62.2	Steam
Illinois Central	1, 25, 29	Creole, Fast Mail, Illini	Arcola	Mattoon	14.5	14	62.1	Steam
Reading	607	Crusader	West Trenton	Jenkintown	21.7	▰ 21	62.0	Steam
Alton	19	Ann Rutledge	Bloomington	Lincoln	29.8	29	61.6	Steam
Canadian Pacific	340	Local	Pasqua	Belle Plaine	10.2	10	61.2	Gas-elect.
Pere Marquette	3	Detroit-Grand Rap. Exp.	Howell (c)	Williamstown (c)	19.2	19	60.6	Steam
Rock Island	23	Colorado Express	Joliet	Ottawa	44.3	44	60.4	Steam
Union Pacific	6	California Mail	Columbus	Fremont	45.2	45	60.3	Steam
Atlantic Coast Line	75	Havana Special	Emporia	Weldon	20.0	20	60.0	Steam
Nickel Plate	5-7-9	NKP Ltd., Western Special, St. Louis Exp.	Rocky River	Lorain	18.0	18	60.0	Steam

Table of Aggregate Mileage

(Figures in parentheses indicate the number of runs making up each item of aggregate mileage. Daily runs, as shown here, are those operated at least five times weekly the year around, except as otherwise noted.)

Railroad	Motive Power	75 mph or over	70 mph or over	65 mph or over	60 mph or over
Alton	Steam	.....	.....	.....	30 (1)
Alton	Diesel	.....	.....	29 (1)	572 (9)
Alton—Total		.....	.....	29 (1)	602 (10)
Atlantic Coast Line	Steam	.....	.....	.....	20 (1)
Atlantic Coast Line	Diesel	.....	.....	.....	571 (8)
Atlantic Coast Line—Total		.....	.....	.....	591 (9)
Baltimore & Ohio	Steam	.....	.....	24 (1)	344 (10)
Baltimore & Ohio	Diesel	.....	.....	17 (1)	645 (12)
Baltimore & Ohio—Total		.....	.....	41 (2)	989 (22)

EVERYTHING'S LIKE A DREAM in the *Kansas Cityian*, when these Santa Fe gals get through cleaning her. With turnaround time reduced to minutes instead of hours large maintenance crews must work swiftly to keep equipment neat and mechanically perfect. At right: the steam-powered *Chief*, engine 3775, holds Santa Fe high iron over scenic Cajon Pass, in Southern California. No speed records are shattered here, where the ruling grade is 3.6 percent, eastbound

Big Four	Steam	.....	.....	371 (6)	1126 (26)
Burlington	Steam	.....	.....	.....	160 (3)
Burlington	Diesel	405 (7)	1306 (20)	2306 (33)	4806 (67)
Burlington—Total		405 (7)	1306 (20)	2306 (33)	4966 (70)
Canadian National	Steam	.....	.....	13 (1)	192 (5)
Canadian Pacific	Gas-electric	.....	.....	.....	10 (1)
Chesapeake & Ohio	Steam	.....	.....	.....	51 (1)
Chicago & Eastern Illinois	Steam	.....	.....	145 (3)	377 (9)
Chicago & Eastern Illinois	Steam (b)	.....	.....	160 (3)	290 (5)
Chicago & Eastern Illinois—Total		.....	.....	305 (6)	667 (14)
Chicago & North Western	Steam	.....	.....	43 (1)	589 (12)
Chicago & North Western	Diesel	181 (4)	545 (11)	1614 (32)	3555 (80)
Chicago & North Western—Total		181 (4)	545 (11)	1657 (33)	4144 (92)
Chicago, North Shore & Milwaukee	Electric	.....	15 (1)	81 (6)	1697 (112)
Chicago, South Shore & South Bend	Electric	.....	14 (1)	55 (6)	415 (40)
Erie	Steam	.....	.....	.....	464 (9)
Florida East Coast	Diesel	.....	.....	80 (4)	458 (17)
Ft. W. & Denver C.—CRI&G	Diesel		71 (2)	599 (7)	875 (12)
Great Northern	Diesel	.....	.....	.....	12 (1)
Illinois Central	Steam	.....	.....	.....	97 (5)
Illinois Central	Diesel	.....	.....	354 (7)	921 (19)
Illinois Central	Diesel (b)	.....	45 (1)	100 (2)	462 (10)
Illinois Central—Total		.....	45 (1)	454 (9)	1480 (34)
Illinois Terminal	Electric	.....	.....	10 (1)	34 (4)
Lehigh Valley	Steam	.....	.....	.....	149 (5)
Michigan Central	Steam	.....	.....	123 (2)	1702 (23)
Milwaukee	Steam	43 (1)	315 (6)	1085 (20)	2740 (55)
Milwaukee	Diesel	78 (1)	223 (4)	607 (10)	921 (17)
Milwaukee—Total		121 (2)	538 (10)	1692 (30)	3661 (72)
Missouri Pacific	Steam	.....	.....	26 (1)	228 (10)
Missouri Pacific	Diesel	147 (2)	232 (5)	883 (21)	1557 (37)
Missouri Pacific—Total		147 (2)	232 (5)	909 (22)	1785 (47)
New York Central	Steam	.....	.....	1354 (15)	11779 (131)
New York Central—System Total (f)		.....	.....	1848 (23)	14618 (181)
Nickel Plate	Steam	.....	.....	.....	54 (3)

Pennsylvania	Steam	123 (1)	492 (4)	2299 (26)	5998 (74)
Pennsylvania	Steam (b)	.....	.....	.....	192 (2)
Pennsylvania	Electric	.....	228 (3)	5924 (104)	17785 (390)
Pennsylvania—Total		123 (1)	720 (7)	8223 (130)	23975 (466)
Pennsy.-Reading Seashore Lines	Steam	.....	.....	.....	419 (13)
Peoria & Eastern	Steam	.....	.....	.....	11 (1)
Pere Marquette	Steam	.....	.....	.....	19 (1)
Reading	Steam	.....	.....	.....	22 (1)
Rock Island	Steam	.....	.....	.....	132 (3)
Rock Island	Diesel	21 (1)	477 (10)	1280 (33)	3300 (83)
Rock Island—Total		21 (1)	477 (10)	1280 (33)	3432 (86)
Santa Fe	Steam	.....	.....	172 (2)	708 (9)
Santa Fe	Diesel	.....	128 (2)	607 (10)	2517 (39)
Santa Fe	Diesel (a)	.....	1102 (7)	1953 (15)	3588 (30)
Santa Fe	Gas-electric	.....	.....	.....	10 (1)
Santa Fe—Total		.....	1230 (9)	2732 (27)	6823 (79)

CHICAGO, SOUTH SHORE & SOUTH BEND covers 415 miles of start-to-stop runs at 60 miles per hour or better

TWIN CITIES ZEPHYRS, Numbers 21 and 23 of the Burlington Route, head the list of speedy start-to-stop runs of less than fifty miles, stepping through the dew from La Crosse to Winona Junction, Wis., 26.6 miles in twenty minutes, to the tune of 79.8 miles per hour. These trains are Diesel-powered streamliners

Seaboard Air Line	Diesel	.....	.....	241 (4)	977 (17)
Southern Pacific	Steam	.....	.....	.....	551 (6)
Southern Pacific	Diesel (d)	.....	.....	288 (1)	571 (2)
Southern Pacific—Total		.....	.....	288 (1)	1122 (8)
Union Pacific	Steam	.....	.....	.....	221 (4)
Union Pacific	Diesel	94 (1)	528 (6)	1679 (19)	2065 (24)
Union Pacific	Diesel (d)	.....	.....	.....	380 (2)
Union Pacific—Total		94 (1)	528 (6)	1679 (19)	2666 (30)
Wabash	Steam	.....	.....	103 (3)	693 (15)

Recapitulation

Daily Runs

Steam	166 (2)	807 (10)	5758 (81)	28876 (436)
Electric	.....	257 (5)	6070 (117)	19831 (546)
Diesel	926 (16)	3510 (60)	10296 (182)	23752 (442)
Gas-electric	.....	.....	.....	20 (2)
Total	1092 (18)	4574 (75)	22124 (380)	72479 (1426)

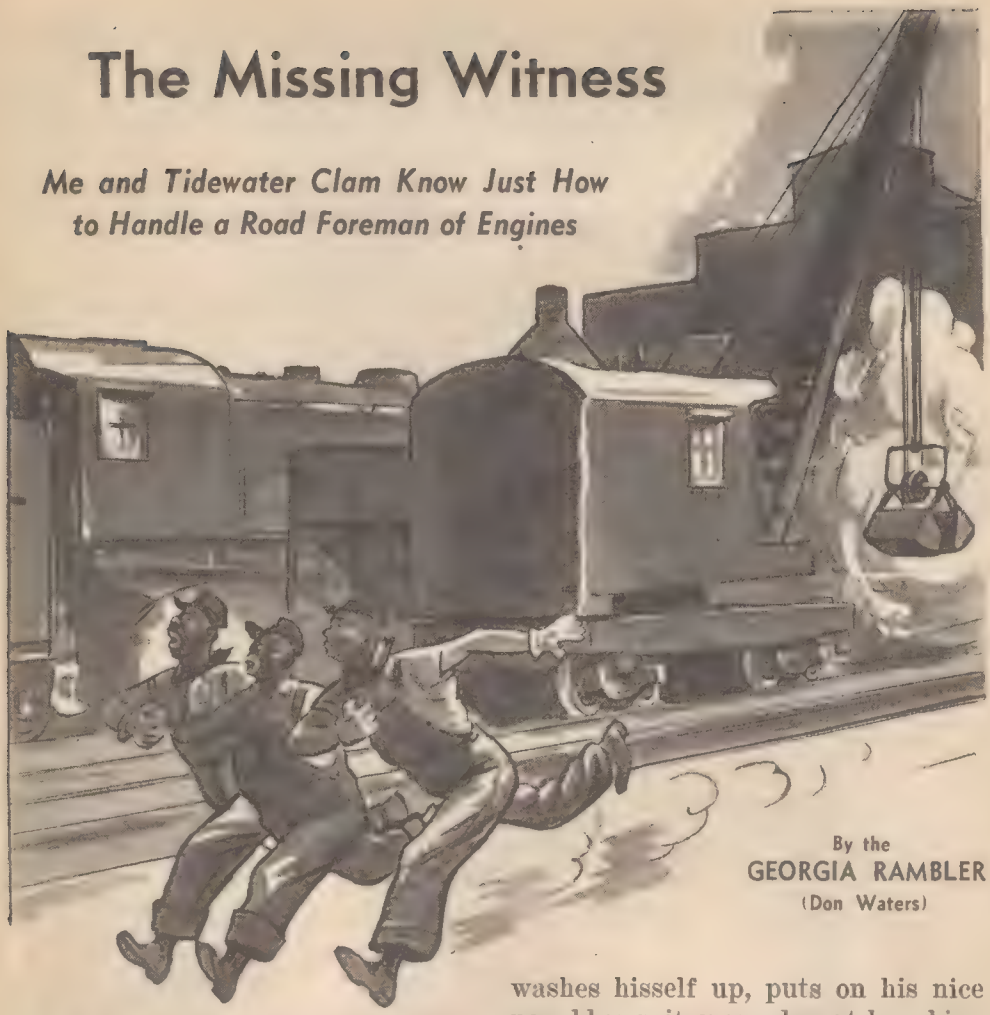
Runs Other Than Daily

Steam	.....	.....	.....	482 (7)
Diesel	.....	1147 (8)	2341 (18)	5001 (44)
Total	.....	1147 (8)	2341 (18)	5483 (51)
GRAND TOTAL	1092 (18)	5721 (83)	24465 (398)	77962 (1477)

† Runs listed in both directions.
‡ Half minute more than shown in timetable.
(a) Operated twice weekly.
(b) Operated every third day.
(c) Includes intermediate conditional stop or stops.
(d) Operated ten times monthly.
(e) Operated five times monthly.
(f) Including Big Four, Mich. Cent. and P&E
(EC) East Coast Section.
(WC) West Coast Section.
(VS) Virginia Section.
(WS) Washington Section.
Dixie Flagler, City of Miami and *South Wind* operated on successive days on same schedule.

The Missing Witness

Me and Tidewater Clam Know Just How to Handle a Road Foreman of Engines



By the
GEORGIA RAMBLER
(Don Waters)

ME AND TIDEWATER CLAM sorta growed to the job. We'd been here for nine months now, and was getting to be regular home guards. Next thing we'd be planting a flower garden in front of the boarding-house, or mebbe joining the Volunteer Fire Department. Onct in a while I get the idea it was time to blow, but I don't say nothin' to Tidewater. That Jane over to the depot lunchroom—well, you know how it is when a guy falls for one. He wants to be around her all the time. Tidewater's got so he washes hisself up, puts on his nice new blue suit every day at knocking off time and goes over an' goats.

He ain't no bad-looking guy when he's dressed up. He's got wide shoulders and those lumps so his coat don't need padding. I see him pick up one side of a pair of boxcar wheels holding on to the axle. And he can heft a twenty-pound sledge by the end of the handle and ease it down arm's length till it just touches his nose. Brother, if you think you're good, try those tricks some time. When you get a crick in your back or knock out a coupla front teeth, don't blame me.

CAR-KNOCKERS sped by as if shot from the steam-belching engine

Me, I'm built different. My belt would lap Tidewater's middle by a foot, and he's half that much higher than me. Well, anyway, this little tomato over at the lunchroom is all jake with me, too. Me and my partner has stuck together through lots of tough going. I ain't gonna drift off and leave him now. Like I said, we stuck at the roundhouse job except for getting fired and hired again —but I told you that already.

Then J. G. Witherspoon comes on the scene. He's the new Road Foreman of Engines and what I think of him won't never see print in no nice

refined magazine. He's the nosiest *La Cucaracha* that ever crawled out of a crack in the woodwork. He's a little skinny narrow shouldered guy, and he got a coupla ears sticking out on him like a taxi going down the street with both doors open. Like lots of little guys, he thinks the only way anybody's gonna notice him is for him to be as loud and as nasty as he can. It's a wonder that some tallowpot ain't flattened his head with a scoop.

He's always dressed nifty. You could see your face in his shoes they're so shiny. Bet he goes to the barber shop every morning, and his hair looks like he curls it regular. Then he's got a smooth way of talking like guys you hear over the radio. I notice his hands. They are nice and white, and ain't got dirt under the nails. But he sports a diamond ring that would knock your eye out. I hear he's second cousin to the Seventh Vice President of the road or something. Anyway, he's got a drag and ain't had to come up the hard way.

We first run acrost him one afternoon at the boarding-house. I see him laying on the salve to Mrs. Murphy. She's been a widow for twenty years since Dan Murphy goes off the Lick Log trestle and gets pinned under the engine. Yet she's taking in the line with a smile of contentment on her face like a cow chewing its cud.

Every onct in a while she taps him playfully on the arm an' says: "Oh, Mr. Witherspoon! Stop your blarney!" And all the time I see she's lapping it up.

We see him again when me and Tidewater was on the graveyard shift. J. G. comes snooping around at a time of night when everyone should be calking 'em off four rows at a time. Mebbe that's what brings him into the roundhouse when everything's all quiet and peaceful. Most of the gang's through their work slips and found a nice warm engine to curl up in for the pause that refreshes, as the billboards say.

He sure disturbed everyone. Lots of guys had their rest broken up, as he snooped around, even lifting seatbox lids to see what he can find. Next day he turned in a fireman for having a bottle of beer in his box. You know how it is, a nice cold beer ain't gonna hurt, especially when it's to sorta clear your throat of fog and smoke after going through a tunnel.

This J. G. Witherspoon seems to have his nose in everything. He don't play favorites; black or white, it's all the same to him. A bunch of colored fire knockers is having a few rounds of African golf near the cinder pit. He breaks that up, even takes the galloping ivories with him over to the Superintendent's office to show the old man.

FAT LOT OF GOOD that done him. The special agents, the railroad dicks, been trying to discourage them games of chance for a long time and they ain't had no luck yet. They finally got so they looked the other way an' got sorta deaf to the sound of, "Come to papa, baby!" or "Little Joe, you makes me weep!"

But this guy Witherspoon thinks he can change human nature, I guess. His idea don't improve his standing at all among the labor gangs around the shops. Take a pay day crap game. Some of our Negro brothers think the Civil War was fought to guarantee them those rights.

Well, anyway, he circulates around and keeps the whole division all uneasy. Little things like a fireman showing up five minutes late on a call or a hoghead swiping an extra can of valve oil from the shanty when the supply boy is out—such things Mr. Junior Grade, as Tidewater calls him, don't let pass, not him. He's got a little black book and he puts everything he sees wrong down in it. But in the first week or so, it's mostly small stuff he has to report.

Then comes his shining chance. Old Billy Murdock brings in the 3014 one afternoon. Billy's been on the road since he was twelve, when he started lugging water for a extra gang. He shovelled many a scoop of coal through a firedoor before he got on the right hand side of a cab. Onct he told me about the days when this country was being cut over by the lumber gangs. Then he used to carry a pick handle with him on his runs. He'd help the conductor collect fares or persuade some tough guy to pay or walk.

Billy's due for retirement in a year or so. Now the old man's joints are a little stiff and he don't see or hear like he used to. But he's a regular guy. Everybody likes him. Well, like I said, he comes in with the 3014 and parks her down at the cinder-pit track. She's there for about a half hour or so, before it happens.

Billy and his fireman has cleaned up and are just making out a work report when *ka bling!* a racket down on the pit track shakes the ground and like to jarred my hat offen my head. Me and Tidewater Clam are up at the sand shanty a coupla hundred yards away.

"Oh, oh!" says Tidewater. "Georgia, there's hell to pay now!"

The 3014 is blowing fog from every hole around her firebox and ashpan. There's a big cloud of ashes streaking from her stack and a roar of steam out of her like a volcano or something. The knocker gang is scattering in all directions. I see one make a graceful dive under a possum-belly coal car. He went in one side, seemed to float beneath the hoppers and come up on the other side running.

Another holding a slice bar in both hands yells, springs high up into the air and starts his feet to waving. When he hits the ground, he's all ready in high gear. He goes a dozen jumps before he knows he's carrying anything. Then he tosses the slice bar over his head like he's a doing a setting-up exercise and passes rapidly from view. There's three of 'em running side by side like a chariot race, with little puffs of cinders spurtin' out from under their heels. They sweep around the end of the supply house, their legs keeping time like they was one man.

ONE MINUTE the fire-knocker gang is all present and accounted for. Next there ain't but one in sight. That one misjudges the layer of cinders floating on the pit for solid footing. He goes under but he don't stay down long. Mebbe the water is too hot or something, for he comes out quick and takes off in the general direction of the river a mile away.

Tidewater watches him leaving, grins an' says: "Georgia, at the rate he's a moving, he'll soon dry hisself off."

Well, anyway the pit is soon deserted. Tidewater picks up his monkey wrench from the bench—where it was laying.

"Come on," he says. "I think we got work to do."

I follow. We climb up into 3014's cab. It's still full of fog and ashes so you can't see your hand in front of your face hardly. Tidewater jerks the left injector wide open. She don't prime on account of he never gives the water a chanct to lift. Besides, I guess by now the steam has dropped to where the suction won't pick up.

He starts to uncouple the glands that pack the glass, calls to me, "Shut it off!"

I twist the handles top and bottom. I can't figure what he's up to for a while, but then I catch on. The water-glass connections are plugged with scale or mud. Billy musta looked at his water level before he left the engine an' the glass musta lied. Then I jerk the blowoff cock open and the steam outta it adds to the general mess. Tidewater gets the glass cleaned where it was stopped up and back on the boilerhead.

By this time, we ain't alone. Jim Brown, the shop foreman, has come up, and Old Man Murdock is with him. Neither asks what happened. Billy Murdock is looking pretty glum; and I feel sorry for him. We done what we could. It ain't long before the 3014 has blowed down so we can examine her. She's in bad shape. There's a back-shop job on her and it ain't no small one. Her crown sheet is burned, rippled like an accordian, and there's a crack three feet long in the right corner you could almost poke your finger in.

Well, we're all up in the cab goating about it when our old friend, J. G., shows up. The brass hat is red in the face and all out of breath like he's been running. I hear afterwards he's beat it all the way from the yard office where he was laying around to see if the engineers tested their brakes on the passenger trains before they pulled out past the yard limit board. That was his idea, according to notice Number 36 posted on all the bulletin boards.

Well, anyway his ears were good. They oughta be, they're big enough. He had heard the racket when the 3014 turned loose and had come down to investigate.

"Ah, a crown or flue sheet, huh?" he says in a nasty voice as he got into the cab.

No one speaks. He looks at the injector handle clear back, nods to hisself, then pulls out his little black book.

"Who was the engineer?"

"I was," Billy answers, "but I left her with three gages full."

J. G. gets a mean look in his eye. "Did you try the gage cocks or depend on the water glass?"

I coulda smacked him right then. He seems to be enjoying the occasion. I figgers I'll just turn him over my knee and warm up his settee. But Tidewater catches my arm, whispers:

"No, Georgia, I agree with your sentiments, but it won't do no good."

THERE'S A RULE that the last man on a engine that's burned has gotta take the blame, and that means he's fired for good. Billy's in a jam. They don't seem no way out for the old man; and J. G. is gonna do his best to put it on Billy. At that I can see how it happened. The 3014 is due for a boiler wash. She's all caked up inside on account of the south end of the division runs through a limestone country and the water is bad. The lower end of the

water glass plugged and she musta been almost dry over her crown sheet when she came in.

Well, Witherspoon notes all the details in his book. Then he and Jim Brown have a meeting in the shop office, though he only stays a few minutes. Soon I see him beating it over to the depot. He's happy, I can see by the way he picks up his feet. So I think he's going up to the division Superintendent with his story. The 3014 was pushed acrost the turntable back on to a siding. The whistle blows for quitting time, and we cleans up.

On our way acrost the tracks, I ask Tidewater what he pulled the injector on the 3014 for. He just grins.

"You'll know tomorrow," he says.

We started over to the restaurant to get a cup of Java like we always do. But at the door we both set the air on ourselves; I mean we stop in emergency. For inside draped over the segar counter is J. G. Witherspoon. He's handing out a line of applesauce to Tidewater's girl. She's taking it in with her eyes as big as two saucers and her mouth hanging open. You can see she's falling for his baloney without straining your eyes at all.

"Tomorrow night then at seven?" I hear him say.

She nods, looks up, sees us. Her face gets red at the sight of Tidewater. Then she sorta tosses her head and marches back to the kitchen. J. G. comes out, looking at us like we was a coupla dead rats, and passes on. As he goes by, I feel like putting a whole shoemaker shop in the seat of his breeches. I'll bet I coulda made his shirt tail run up his back like a roller curtain.

We goes in. Tidewater acts like nothing happens but the dame is off the beam. Her mind is flying far away. Tidewater, I see by the look in his eyes is figgering how to do a lot of no good to someone, and I don't need two guesses to name the guy.

Well, we downs our cup of Java and we go, and the good-bye we get sounds pretty flat to me. But that's the way with some skirts. They fall for a guy with a gold front tooth and a sparkler on his finger, when they oughta know the line he hands 'em has been tried out and got to working good on many another frail before them. But like I always say, you ain't going to have to hunt trouble when you tangle with a woman. You're gonna have it handed right to you.

So we drift over to the boarding-house, not talking much. But I see by the set of Tidewater's jaw he's not gonna take this lying down.

Next day over at the shop, everyone's buzzing about the 3014. I hear there's to be an investigation this afternoon. Earlier Tidewater and Jim Brown has a long talk up in the 3014's cab. When Tidewater comes over to me where I'm packing the throttle rod on a yard jack, I asks him how things are going.

"Not too good, Georgia," he answers vaguely, "and not too bad."

"Are they gonna hang that on Billy?" I inquires.

Tidewater gets that look in his face that I knows when he has made up his mind about something.

"Not if I can help it, Georgia," he says.

Well, anyway, just after noon, J. G. hisself comes trotting over to the 3014. I'm working up in the cab of a Mallet on the next track, and when

I see him climb up the gangway I keep quiet and watch. He's got a grip with him. He opens it, and takes out a suit of overalls. I see they're nice and clean, all starched up. That guy is so nifty about his looks he won't even wear dirty overalls. But I wonder what's up.

SQUINTING AROUND the boilerhead, I watches him. He peels off his good suit and puts the overalls on. First thing after he gets changed, he examines the water glass. I see him nod his head. I figger he's spotted the wrench marks on it. Now he knows someone had that glass off. I see him write in his little book. The son of a gun is hard to fool, I have to hand it to him. I sneak down and hunt up Tidewater to tell him what's goin' on.

We get up in the cab of the Mallet and watch. This guy is getting all rigged up. He has a red handkerchief around his neck and a striped cap on his head. We can see him plainly get a flashlight outta his bag. He pulls the firedoor open. It's a butterfly type and he's not taking any chances on it closing on him. He shoves a rail spike between the teeth of the gears. I see now what he's up to; he's going into the firebox to examine at clost range how bad it is. I guess he'll count broken staybolts or something.

I look at Tidewater. Well, he's got a glint in his eye like he just drawed three aces to the one he's holding. We waits till this worm crawls into his hole.

"Come on, Georgia," says Tidewater. "Junior Grade's our meat now."

I don't get it, but I follows. Tidewater steps up lightly into the cab of the 3014. He pulls out the spike, slams the firedoor closed and jams the spike back to hold it that way.

From inside comes a muffled shout: "Hey, open the door!"

Tidewater whispers to me as we get out. "They ain't nothin' wrong now, Georgia. Everything is gonna be just dandy."

Well, we hear a lot of yellin' and thumping, but it's sweet music to our ears. Inside a half hour everybody around the shops knows how things are. Nobody goes near the 3014. The way they keep away from her, you'd think she had a smallpox sign hung under her headlight. The noise from her though is plain to hear. You wouldn't think a little fellow could make so much racket.

"Hellup! Hellup! Let me out!" comes floating out her stack sounding like it's coming from the bottom of a well. Every time you get within fifty feet of her you hear it plainly. Tidewater explains to a coupla guys what's makin' the racket and the word soon gets around. I am down at the cinder pit fixing the governor on a pump when the knocker gang breaks into song.

"'Too high, you can't go over it!
Too low, you can't crawl under it!
Too wide, you can't go around it!
You gotta come out by the doah!'"

Jim Brown comes past. He's got a grin on his face like he's just heard a good joke, but can't tell it on account it's a secret. He calls to me.

"Georgia," he says, "you an' Tidewater are due over at the depot at four. The heavy papas are comin' in on 42. They got a business car hitched to her. The investigation will take place in the car set off on the siding at the depot."

I jumps a little at this. I wonder if the Superintendent of Motive Power is going to be in the party. Me and Tidewater can't afford to meet that guy face to face account of we had a little disagreement with him a while back. And according to his ideas, we're far, far away from here by now.

Jim Brown sets me right though when he says: "It'll be all right, just a little party among friends."

I ain't slow to take the hint. Me and Tidewater cleans up and ambles over. We're star witnesses on account of being the first men to see the 3014 after she comes in. The leading boilermaker at the shops tells his tale. It's simple. The 3014 is burned. No question about that; he just tells again what everybody knows.

Then old Billy Murdock says his piece. He swears that the boiler was three gages full. He's got one point to the good; the blowoff cock was leaking. He shows his work report to prove he's marked that down when he comes in. Well, it could of happened that way. The water could drain off through the leaking cock; but me and everybody else knows she'd have to be blowing some to bleed off three gages of water in a half hour or so. It still looks bad for Billy.

THEN TIDEWATER says his piece. He tells how he got on the 3014 while the commotion is still going on. When he examines the waterglass—he don't tell how well he does that—she shows no signs of water. Well, she couldn't seeing as how it was in his hands while he examines it. The left injector is open.

"Was it working?" the old man asks.

Tidewater tells the truth as he sees fit. There was so much racket in the cab, he wouldn't know. I chimes in to state that I opens the blowoff. Then Jim Brown comes up with his views on the subject. According to him, the blowoff leaks out the water, the crown sheet dries off. When the chief fire knocker, by the name of "Bad Eye," opens the injector and slushes cold water over that hot plate—well!

Everyone nods. And everyone knows everyone else is lying. But no gent will accuse another of that. The party sorta quiets down. They're all waiting for J. G. But our friend Witherspoon is delayed some way or another. Simpson, the Master Mechanic, sends the porter out to get the chief caller to hunt the Road Foreman of engines up and to inquire politely what the hell is keeping him.

Me and Tidewater looks at Jim Brown. He's looking out the window at a Jane getting on Number 19, the four-thirty passenger.

"Not bad," he sorta speaks to hisself.

Both Old Man Simpson an' the division Superintendent is gazing at the same thing.

"Not bad," they both murmur. She gets up on the platform, turns, looks right at us. Say, she sure was a lollapolusa! That makes a break in the proceedings, which was enjoyed by all.

The chief callboy comes in then and reports that he's sent his gang out to find our missing man. An' he adds, "They'll find him if he's alive an' in the county."

Well, we get to goating about this and that and the other thing while we wait. Things has eased down.

Old Billy Murdock tells the one

about the three guys that comes dashing up to the station gates just as the Limited is pulling out. These three gents must of been having a little farewell party and lingered too long over the last round. The gatekeeper lets 'em through. They make a sprint after the train, which is getting up speed and not due to stop for a hundred miles. Two of the guys barely make the observation platform and haul theirselves aboard. The other's a little foot-heavy and misses the grab-iron. He comes back, and the gatekeeper opens the gate to let him through.

"Old man," he says polite like, "I'm sorry you missed your train."

"Hell," says this gent weavin' a little on his feet, "don't feel sorry for me. Feel sorry for the other two."

He points to the rear end of the Limited disappearing down through the yards. "You see," he explains, "they came down to see me off."

Well, we all has a good laugh at that. Then Simpson pulls out his watch and shakes his head.

"We've got to get back on 21. She's due out in twenty minutes. Where is that guy? He knew when this meeting was called. Why ain't he here?"

The M.M. turns to the division Superintendent. "What's his record since he come up here?"

"He's done more harm than good," says the Colonel.

Well, at that I know J. G. ain't gonna pester us much more around here. About this time a switch engine couples up to us and hooks us on the rear of 21, which is made up and standing in front of the depot. We all get ready to leave.

Billy Murdock sure shows he's relieved when the M.M. says to Jim Brown, "You discharge that chief ashpit man at once."

"He's no longer in the company employ," Jim replies.

Well, then is the payoff. Up comes no one but Mr. J. G. hisself, but you'd never a knowed him. He's arguing with a coupla callboys as they push him along.

"I got orders to perduce you," shouts one, "an' believe me, brother, I'm gonna do it if I have to knock you cold an' lug you over my shoulder. Get along, now!"

He pokes him in the ribs and starts him going again.

OUR FRIEND is in bad shape. The curl is gone from his hair; he's sweated it all out. His face is black with soot 'cept where the sweat has streaked down it. His overalls are crumpled an' dirty. The tennis shoes were white onct I guess, but you couldn't tell that now. Ashes cover him and he looks like he's about to go into the hands of a receiver.

I looks over at Old Man Simpson. He's chewing on a segar butt an' trying to keep his face straight. He tried a coupla times, before he gets anything out.

"Where?" he chokes a little, "did you find him?"

"I hear a lot of racket," says a callboy. "Sounds like the Salvation Army is holdin' a meeting on a engine over at the roundhouse. I find this guy inside the firebox trying to pull the grates and crawl out through the ash pan. He didn't want to come till he got all dolled up. So I gets another hand to help me. I guess he's nuts," he wound up, "but you wanted him an' here he is."

The caller hauls out his book, pushes a stub of a pencil in his hands

an' makes J. G. sign. After this our wormy friend tries to make hisself look important as he says:

"I have the complete evidence—"

The M.M. stops him. "So have we," he says. "The man responsible is no longer in the company's employ. The case is closed."

"But—but—" J. G. don't have no chance to get out anything more.

It's leaving time for 21, and she pulls out. We watch till the business car goes around a bend and disappears. We turn to look for J. G. He's gone too. Thus, like Simpson says, the case is closed. We learns after we get back to the shops that Jim Brown tells the truth when he says Bad Eye is no longer with us. He's got another job. You see, he got into a fight and was given ninety days in the workhouse.

We don't go over to the restaurant after we clean up. Tidewater Clam says: "Georgia, let's delay our visit a while tonight. I gotta hunch."

SO IT WAS after we has supper at the boarding-house that we ambles down to the depot. Tidewater's moll is all dolled up.

She seems sorta surprised to see us. As we come in, she gives a quick look at the clock on the wall. It's five minutes to seven. Tidewater never lets on.

"Gee, but you look like a picture," he says, "and I don't mean in the funny papers."

Well, she makes out like this line don't interest her. She keeps gazing first at the clock, then at the front door. Tidewater grins, pulls a bill out and lays it on the counter.

"Sister," he says, "I know you don't bet. But I'm a laying this five-spot against a cup of Java he don't show up."

She makes out like she don't know what he's talking about; but by seven o'clock they are down to cases.

"He'll come," she says. "He's a real gentleman and keeps his word."

"All right," Tidewater answers, "the bet is still good."

A few rails drift in and out, but another skirt serves 'em. At seven-thirty we are still waiting. Her big blue eyes are sorta misty now. I even begin to feel sorry for her. With one last look at the door, she gets mad. She goes over to the coffee urn, draws a cup, an' slams it down in front of Tidewater.

"You win!" she admits.

But she soon gets over her anger and they both go uptown to a show together. That night when he comes back I asks my partner how he knows J. G. ain't gonna show up.

He grins and says: "Georgia, a terrible thing happens. While our friend was confined in the firebox, some low-down guy eases off with his bag with his shoes and suit in it. Mrs. Murphy had sent his extra suit to the cleaners. By the time he gets hisself washed up, the stores are closed an' he's got no glad rags. He ain't a man. He's just a suit of clothes an' a diamond ring."

"Who swiped his suit?" I asks.

"Well, that's a question," Tidewater answers. "But I'm sure that whoever did it is sorry, and the rig will be found on the bench in the washroom tomorrow morning. He'll need it when he goes away from this division."

And that's how it turned out.

ROLLER-BEARINGED ***Empire State Express*** **races down the Hudson on one of the fastest steam-powered schedules in the country. Advantage of this form of journal sheath is in the lower speed range —below twenty miles per hour**

Car and Engine Bearings

PLAIN, or bored bearings, are as old as the wheeled vehicle. By and large they have served their purpose well; yet the fact remains that they present the mechanically inefficient condition of one flat surface being dragged across another. Even with copious lubrication, such bearings absorb a great deal of power which might well be put to work at the rim of the wheel.

It was not until man's cry for speed had found an answer in the locomotive that experiments began to be made with the object of eliminating sliding surfaces. Records show that as early as 1847, anti-friction bearings were applied to railroad equipment. But impractical design, high cost of manufacture, and the need for steel superior to that which was then obtainable, more than offset any advantage which might have resulted from their use.

Thus we find the idea shelved until 1898, when an ingenious St. Louis carriage builder named Henry Timken applied himself to the problem of producing a vehicle so easy to move that one horse could actually do the work of two. His first experiments were with ball bearings. But Timken soon saw that their pin-point suspension did not permit the carrying of heavy weights at high speed. Substitute a hair line of contact between rotating surfaces and the load supporting quality of the bearing could be greatly increased with practically no change in the amount of friction.

The outstanding feature of the Timken design, however, was its use of tapered rolls, the purpose of which we will point out in a moment. But first let's study the nature of the conventional railroad bearing, in order that we may draw some sort of comparison.

Diagram I shows such an assembly, as applied to driving or truck axles. Its major feature is a crown brass, set securely in a box on which rests the weight to be carried. In the case of the driving box it is forced into position under hydraulic pressure, while with car and tender trucks application is made by the comparatively easy process of removing all weight from the axle-end or "journal" and sliding the brass into place.

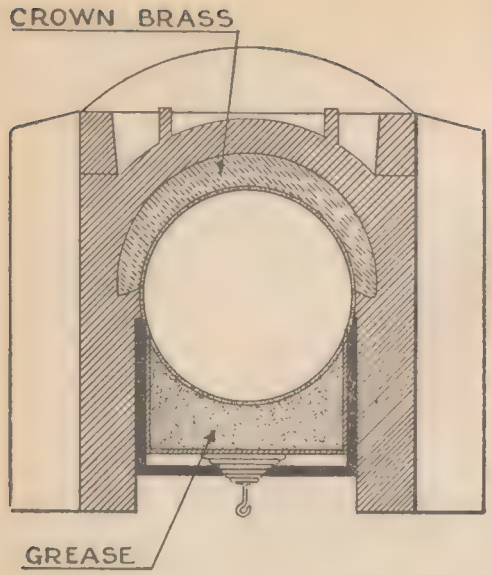
Driving box lubrication takes the form of heavy grease fed from below, and truck bearings use oil-saturated waste or "dope" to feed a protective film between bearing

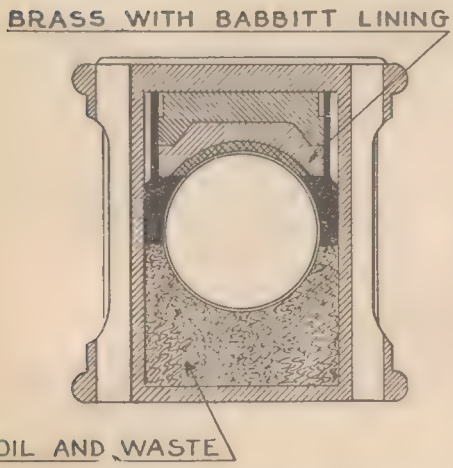
Light of the Lantern

and axle. Let line fibres be drawn between the two surfaces, or overlook replenishment of the oil in the journal box, and an axle-end will run hot, with inevitable damage and delay. For the unlubricated shaft and brass are then sliding directly across one another, with the car or engine weight being applied to approximately thirty-five per cent of their contacting areas.

This figure, of course, applies only to vertical loads. To it is added, on curves and deviations of track, a side force or thrust which greatly increases the rubbing surfaces. For a collar is then brought to bear upon the brass, or, in the case of a driving box, the wheel hub presses against the side of the bearing. It goes without saying that at high speeds this thrust is extremely great.

IT WILL be seen then, that no mean task awaited the designer of a roller bearing capable of standing up under the same stresses. Timken was not alone in the struggle. Dozens of other inventors devoted their best talents to a solution.





DRIVING BOX (above), and journal box (below), seen in cross-section. These types of bearing impose engine and car weight on approximately thirty-five percent of journal surface

Out of their efforts have come four present day producers—Timken and American Steel Foundries, both of which manufacture tapered bearings (ASF places them directly within the wheel center); SKF, whose product uses barrel-shaped rolls; and Stearns-Stafford, patentee of a cage which holds two courses of staggered rolls. A fifth manufacturer, Hyatt, absorbed by General Motors some years ago, employs a simple assembly of untapered rolls.

Regardless of their individual characteristics, any roller bearing substitutes a number of tough carbon chromium hardened steel cylinders, rotating within a cage, for the protective film of oil used in the friction bearing. The cage itself is necessary to hold the rollers in alignment, and to keep them from rubbing one against another, for adjacent roll surfaces necessarily turn in opposing directions. Both inside and outside the cage are accurately machined cylinders called "races", which form close fitting tracks for the rolls. These are pressed securely, one upon the axle and the other inside the box carrying the car or engine weight. In addition to these major elements, there are such minor refinements as air combination spacing collar and oil flinger, and a "stench bomb", designed to release a warning odor at a temperature well below the danger point for a bearing which is running hot.

A moment back we mentioned the need to overcome side thrust. This is accomplished automatically, in the case of the tapered-roll bearing, which is so placed that if a car moves laterally the outside race tries to climb onto the largest diameter of the rolls. Tolerances will not allow this, however, and there is a resulting tendency toward realignment. SKF barrel rolls do the trick similarly, as they run in arc-shaped races.

A glance at Diagram III shows how opposing forces are neutralized—in the outside bearing by means of converse cones within each journal box, and in the case of the Timken driving box, through the use of a husky housing which makes the thrust resistance of the roller assemblies at either end interdependent.

ALTHOUGH the modern roller bearing quickly found its way into favor in automotive service, it was not tried out

on the railroads until 1921. Six years later, the Milwaukee Road advertised the *Pioneer Limited* as the first all roller-bearing passenger train in America. In the intervening period several roads, among them the Pennsylvania, had experimented with anti-friction bearings for freight service.

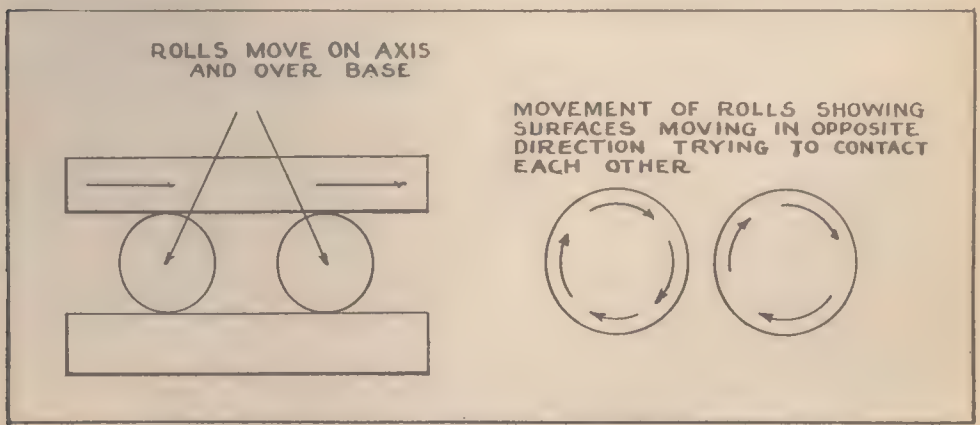
The results had not been too satisfactory. There was no complaint on the score of mechanical performance; but the fact was that cars so equipped presented a problem in terminals. Soon tags began to appear with the legend "do not kick or hump." The fact was that roller-bearing stock moved too easily to be switched in the usual way. This factor, along with high first cost, has discouraged any large-scale adoption of the anti-friction bearing in what might otherwise be its most profitable field.

For it was soon discovered that the roller-bearing car shows to the greatest advantage at speeds below twenty miles per hour, when its resistance, per ton of weight, may be as little as four pounds on level tangent track, as against twenty-eight pounds for the friction-bearing supported job. Let the babbited brass warm up, however, as it does in the upper speed ranges, and the two forms of bearing show no appreciable difference in performance. The principal claim to virtue put forth by the roller-bearing manufacturers here, then, is one of operating economy. In a recent test, a passenger car equipped with tapered rolls was run 80,000 miles without having oil added to the journal box cellars. The amount of lubricant used was one-three hundredth of that required for a conventional bearing!

HAVING established itself in the passenger car field, the roller-bearing people eyed the locomotive interestedly. Caution gave the first trial to auxiliary engines and boosters. And then, in 1927, pilot trucks were outfitted for high speed passenger service. This last was an exacting test, for engine truck bearings are a source of much trouble in northern climates, where snow piling over the bearings in wintertime melts and flows in with the oil. Anti-friction assemblies stood up well; were next tried on tenders and trailer trucks.

And then, in 1930, Timken gave an order to the American Locomotive Company for its famous *Four Aces* (Number 1111), a 4-8-4 type equipped with roller bearings on all axles. Loaned to railroads all over the United States she probably underwent the most severe tests ever demanded of a motive power unit.

Opinions of her performance varied from the thumbs-down of one eastern system which claimed that she "rolls too easy on downgrade, resulting in a needless wearing of brakeshoes," to the enthusiasm of the Northern Pacific, by whom she was eventually purchased, fitted out with an ungainly stack extension to adapt

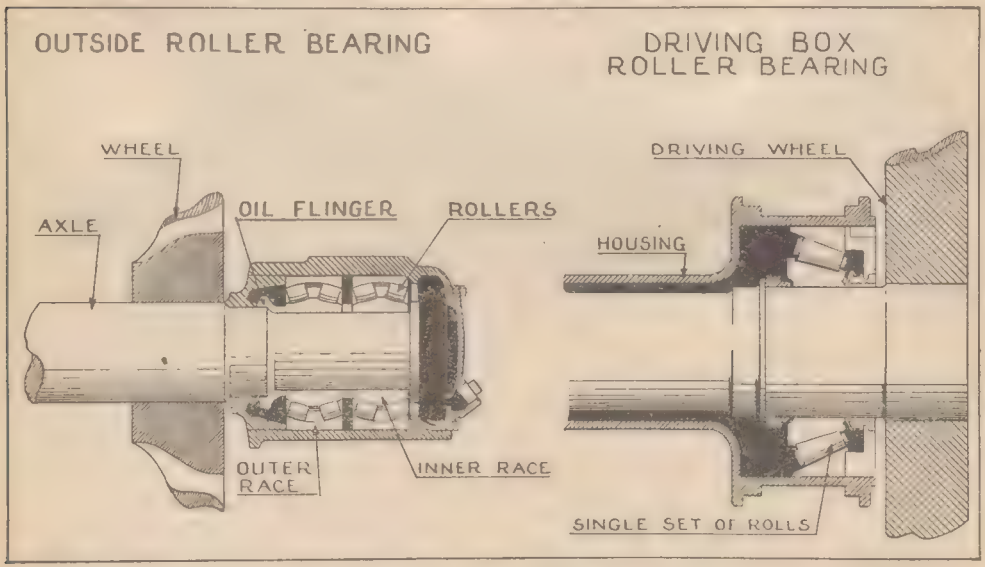

ROLLS MOVE ON AXIS AND OVER BASE
MOVEMENT OF ROLLS SHOWING SURFACES MOVING IN OPPOSITE DIRECTION TRYING TO CONTACT EACH OTHER

NEED for cage to hold bearing rolls apart is clearly shown here

New Haven Railroad Photo

her draft to low grade rosebud coal, and renumbered the 2626.

Since then the roller bearing may be said to have come of age. Orders for engines thus equipped don't make news nowadays, but the performance records of the giants frequently do. In fairness, however, it should be pointed out that given a reasonable amount of care (which, incidentally, it seldom gets) a conventional driving box bearing of the oil-lubricated type, will prove quite as trouble-free as the finest roller bearing ever made.



LEFT: SKF journal housing uses barrel-shaped rolls whose surfaces conform to curve of concave outer race. RIGHT: Timken tapered roll assemblies are set in opposition to one another in connected driving boxes, eliminating side play

ABOVE: Roller bearing assemblies are particularly suited to Diesel-Electric installations. New Haven, which applies conventional journal-boxes to its straight electrics, uses so-called anti-friction bearings on Alco Diesels of the type shown here

BELOW: Reading Co. Pacifics run off speedy miles without the aid of roller bearings. Here's Number 114 emerging from Black Rock Tunnel bound for Royersford. Bridge in foreground crosses Schuylkill River

Photo by Donald W. Furler, 94 W. Main St., Glen Rock, N. J.

Locomotives of the Month:

MODERNIZATION of existing Illinois Central motive power is not primarily a wartime measure. For years its Paducah, Ill., shop has combined extensive rebuilding with general repairs, thereby increasing engine efficiency and saving itself a tidy sum which might otherwise have been expended on new and no more satisfactory locomotives.

In line with this policy the IC has, within the last four years, converted large numbers of 2-8-2s into 2-10-0s, 0-8-2s, and 0-8-0s; 2-8-0s into 0-8-0s; 2-10-2s into 4-8-2s; and 2-8-4s into 4-6-4s. At the same time, extensive changes not involving wheel arrangements have been made in 0-6-0s, 2-8-0s, 4-6-2s, 2-8-2s, 4-4-2s, 4-8-2s and 2-6-0s.

Latest engines to be modernized

Photo by C. B. Medin

ANOTHER rebuilt engine. Illinois Central designates these 2-10-2s its "Central" type

ILLINOIS CENTRAL REBUILT POWER

are ten 2400 class, Mountain-type machines, now bearing the 2300 designation. New features include a raise in operating pressure from 245 to 275 pounds, use of a multiple-unit front-end throttle to reduce the drop in pressure between throttle and valve, employment of multiple-bearing crosshead guides in place of the alligator-type previously used, application of double-disc centered main driving wheels to reduce dynamic augment, and substitution of cast steel engine bed sections with cylinders and pilot cast integral for built up assemblies. Coal capacity has been increased to twenty-two tons by raising the tender coping.

But the outstanding feature is an auxiliary piston valve of approximately six-inch diameter, placed above each conventional valve on locomotives 2301 and 2305. Their purpose is to admit more steam to the

Photos above by V. B. Adams, 634 S. Nelson Ave., Kankakee, Ill.

cylinders over a longer period of time than would be possible with the ordinary valve, at full cutoff. At any cutoff below forty percent, the auxiliary valves permit cylinders to use steam more expansively through a longer lap on the main piston valve. Tractive effort for the new class is listed at 73,920 pounds.

The Information Booth

1

DESCRIBE *the operation of Louisville & Nashville's smoke elimination device mentioned in "Smoke, Sparks and Stacks" in the February '45 issue.*

Last October, three engines from the L&N, the Nashville, Chattanooga & St. Louis, and the Tennessee Central, all equipped with an over-fire steam-air jet, were given a successful public demonstration at Vine Hill, near Nashville, Tenn. The engines were fired up and the black smoke rolled. But a few seconds after the over-fire jets were turned on, the exhaust cleared. L&N has applied the device to twenty-four of its locomotives in the Nashville Terminals, in cooperation with the Nashville Smoke Commission, which sponsored the test.

The steam-air jet is the result of more than a year's research at Battelle Memorial Institute, Columbus, Ohio, applied and supplemented in the field of practical operation by L&N fuel engineer E. D. Benton and fuel conservation engineer John Swann. Basically, the device is very simple. The installation is tied in with the engine's boiler and blower system, and the necessary air is furnished over the fuel bed by means of three or more air tubes which are applied to each side of the firebox. When a mixture of air and live steam is blown directly over the fuel bed, more favorable combustion follows, resulting in almost smokeless operation

Many other railroads have taken advantage of the L&N's pioneering work in this field, and the *Old Reliable* itself proposes to equip other of its yard engines with the steam-air jet in the near future. The device can be used for stationary plants, as well as on locomotives, and in addition to eliminating black smoke, makes greater power and heat available at no increase in fuel cost.

2

WHEN WAS *the first subway in the United States built?*

Tremont Street Line, in Boston, was opened in the fall of 1897. Built at a cost of $4,350, it was about one and two-thirds miles

long, and four-tracked, except for a short stretch of two-track line. It wasn't until 1900 that ground was broken near City Hall for New York's first subway.

3

LIST *specifications of the New York Central's "T" type electric engines.*

NYC Electric (B-B+B-B) Type (35 locomotives)

Class	Number	Drivers	Tractive Force	Weight	Builder and Date
T1a	247	36	63,050	252,200	Alco, 1913
T1b	248-256	36	63,050	252,200	Alco, 1913
T2a	257-262	36	69,775	279,100	Alco, 1914
T2b	263-272	36	70,125	280,500	GE, 1917
T3a	273-282	36	73,150	292,600	Alco-GE, 1926

4

FURNISH *information on the Kinzua Creek & Kane Railroad.*

The Kinzua Creek & Kane, one of a number of three-foot gage lines in northwestern Pennsylvania, was chartered on June 16, 1888, and built in 1891. The line ran from Kane to a point near Root Run, nine miles away. As of Dec. 31, 1895, equipment consisted of 3 locomotives and 17 cars, 3 of these box cars. The road was abandoned in 1899, at which time it was standard gage.

5

GIVE SPECIFICATIONS *of the Wabash, North Western and Burlington 4-8-4 types.*

	Wabash	*C&NW*	*CB&Q*
Class	0-1	H	0-5*
Numbers	2900-2924	3001-3035	5600-5607
Cylinders	27x32	27x32	28x30
Drivers	70	76	74
Weight, Engine	454,090	498,000	454,590
Pressure	250	275	250
Tractive Effort	70,817	65,200 Engine 11,300 Booster	69,910
Builder and Date	Bald., 1930	Bald., 1931	Bald., 1931

**Original class designation*

6

WHEN *were cardboard railroad tickets, with the destination printed on them, first used?*

The familiar cardboard ticket with printed destination was invented in Great Britain in 1836 by Thomas Edmondson for use on the Newcastle & Carlisle Railway. Edmondson, a Scot, was station master at Milton at the time. He also adopted a serial number to regulate the order of the passenger's admission to the trains and very quickly found it a help in checking and keeping accounts in order.

7

I HAVE *a builder's photo of a Boston & Albany 4-8-0 type cross-compound. The side of the high-pressure cylinder is flattened. What is the purpose of this?*

To meet limited clearances.

8

WHEN *did the NC&StL's branch line between Fayetteville, Tenn. and Capshaw, Ala., go out of service?* *(See page 77.)*

Photo by Richard J. Cook, 3402 W. 135th St., Cleveland, O.

TAIL WAGS THE DOG: Decapod 4628 is among PRR freight haulers now equipped with 41-ton coal capacity tenders. Here she is, putting the real-estate to work hauling ore cars into Cleveland

DRIFTING down the Weber River botton into Ogden, Utah. Transcontinental trains, running in two or more eighteen-car sections, are an everyday occurrence on hard-worked ***Overland Route***

The 36.91-mile Capshaw Branch was abandoned and the track taken up in 1929. This was the largest single cut in rail mileage of the year.

9

WHEN *did the Burlington start their Chicago-St. Paul service?*

In the Eighties the Burlington sponsored an entirely new railroad, named the Chicago, Burlington & Northern, to run northwest from the Illinois lines of the CB&Q to the Mississippi River at Savanna, Ill., and thence up the east bank to St. Paul. A traffic arrangement was concluded between the new railroad and the "Q" and an agreement was made whereby the latter would gain complete control of its northern extension. Construction proceeded rapidly, and on October 24th, 1886, a party of journalists accompanied the officials who "flew on the first train over the new line from St. Paul to Chicago in eleven hours and ten minutes. A week later the road was open for regular freight and passenger traffic.

Sparky Photo

A BOY, a dog, and a horse. They passed through Roseville, Calif., recently, travelling Zulu-fashion, to Oregon

10

I HAVE A POSTCARD *of a Southern Pacific engine wrecked by an explosion near Rice Hill, Ore., about 1912. Can you tell me the number and type of the locomotive and furnish any other information about the accident?*

The wreck shown in your picture occurred four miles south of Yoncalla, Ore., on April 4, 1912. The boiler of Consolidation 2538 exploded, and the engineer and fireman were killed instantly. At the time of the explosion, this locomotive and the 2194 were engaged in helper service on a southbound train of forty cars, weight of train 1.605 tons, drawn by road engine 3203. The helpers were coupled together between the caboose and the rear freight car. The boiler of 2538 was blown clear of the frames, breaking or pulling out expansion plates around the firebox, shearing cylinder saddle bolts, and wrecking the front side of the saddle. It was hurled over three boxcars, apparently lighting on the backhead of an oil tank car, from which point it rolled off to the right side and landed on the bank of an eight-foot cut, a distance of more than two hundred feet from the point where the explosion occurred. Results of the investigation proved that the boiler flues were leaking quite badly, and that the crown sheet was overheated, due to an improperly located water glass.

Motor Extra 830 West

By PETER JOSSERAND

Here's what's left of seventy-three dollars' wages, after Federal Tax, Retirement Tax, Hospital Fee, War Bonds and Board deductions have been made

JUST BEFORE she went off duty, Alice Beard cleared the "pay train," a little buzz-wagon technically listed as Motor Extra 830 West. The road is the Western Pacific, on which I happen to be working as dispatcher, while Alice is the personable young operator at Keddie, where the Northern California Extension shoots off from the old main stem. Her husband, by the way, is a locomotive engineer on the Northern California Extension.

I was riding the buzz-wagon that day, as sort of a bus-driver's holiday, and I ran through the flimsies which Mrs. Beard had delivered to the Roadmaster, B. L. McNeill, and which Mac had read himself before handing over to me. Besides our running order, there were slow orders, annulments of several schedules, and "run late" orders on three sections of Number 78. According to the line-up, those sections were the only opposing overdue superior trains on the iron at that time between Keddie and Oroville. First 11, the *Feather River Express,* had gone; we were to let Second 11 by at Keddie, and we would run ahead of Third 11, a "main" train. Our orders permitted us to make Twain or Virgilia, the second and third sidings down the Canyon, for First 78.

After Second 11 had vanished in a swirl of dust, the motor-car chugged out onto the main line. I had brought my camera along, hoping to take some good pictures; and with this

Diesel Hogs Have No Respect for Buzz-Wagons, Even When They Carry Feather River Pay Checks

in hand I climbed aboard and we shoved off. But our first start didn't get us far. McGowan, the day op who had just relieved Mrs. Beard, dashed out of the office and flagged us. McNeill went to see what he wanted. A moment later we were on our way again.

"He says First 78 is standing on the main at Virgilia now putting First 11 through the siding," the Roadmaster stated, raising his voice above the noise of the motor.

"Let me see those orders," I requested.

He handed them to me, and I went through them again. Then I checked the timetable. First 78 wasn't due out of Belden at that time on their "run late"; so they couldn't possibly be at Virgilia, two stations east of Belden. If there was a train at Virgilia, something must be wrong with our orders.

"Hadn't we better go back and find out what's going on?" I asked.

"Nope!" Mac replied. "My orders say I can go to Virgilia, or at least Twain, for First 78."

His remark took me back to my early days of railroading. In that halcyon era such a thought as questioning the validity of a train order never even entered my mind. A train order, like the Law of Gravity, stood apart from human opinion. If it said "go," that was final. Challenging a flimsy could be explained only by ignorance or inability to interpret its meaning.

Then I left the road; was away from it for twelve years. At the outbreak of the present war, a shortage of dispatchers prompted me to offer my services to the Western Pacific. Assigned to Sacramento, I found that my long absence had wrought a change. I no longer spoke the old language nor looked at railroading the same way. For example, train orders. It seemed strange to me that grown men would take their lives in their hands on the authority of a little piece of tissue paper containing instructions, whose correctness depended upon one man knowing—and abiding by—a set of rules which could be enforced only through the threat of dismissal. If the man erred, the flimsy might become a death warrant.

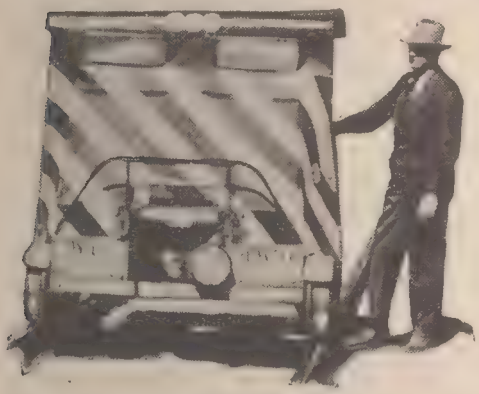
But as I got my feet under the table and reverted more and more to the mental status of my youth, such thoughts troubled me less. Soon the old habit of mentally berating those who sought to question the validity of train orders was with me again. It took a Roadmaster, a motor-car and an eighteen-mile stretch of mountain railroad to drive something into my thick dome that will be with me for a long time—an experience which I heartily wish every train dispatcher could share. This experience gave me a greater understanding of the position in which train and enginemen are placed regarding train orders.

To mountain dispatchers, the motor-car is a first-class nuisance. I say this even though the dispatcher realizes the hazard involved in its operation where curves are numerous and grades are heavy, not to mention tunnels. For instance, on the one-percent grade through Feather River Canyon between Oroville and Portola there are 387 curves in 116 miles, and thirty-two tunnels of varying length up to one and a quarter miles. This, incidentally, is one less tunnel than when I wrote *Mountain Dispatcher* for the April '44 issue of *Railroad Magazine*. What happened to the other tunnel on this line I will tell you about in just a moment.

KEDDIE ENGINE HOUSE is a little four-stall structure, nestled against a mountainside

GETTING BACK to the buzz-wagon, they have to be operated either under the protection of a flag, as with section foremen, or on train orders by men who have passed rules examinations and are qualified to do so. The latter group runs these cars for considerable distances, also various purposes, such as paying off the employes at outlying points twice a month. These trips usually are made by the Roadmaster. They allow him a chance

ALICE BEARD cleared us at Keddie, Calif.



ROADMASTER McNEILL and his buzz-wagon. Mac began his railroading in England. He and six brothers have an aggregate service record of 362 years

to contact all his men and inspect tracks and structures.

A dispatcher cannot very well give a motor-car doing such work meets with opposing trains, as there is no way of forecasting what jobs the Roadmaster, for instance, may have to do, nor how long they will take.

Ordinarily, it is out of reason to delay a Mallet with a tonnage uphill train for a little motor-car that one man can set off the track; and it really takes more scheming to move a motor-car than an opposing train. There is some justification for stopping one train to sign a "31" order which will save another train a great deal more delay than the train stopped will get; but this does not apply to a buzz-wagon.

Since operating conditions are difficult here, as on all mountain roads, it is next to impossible to keep trains on time orders. Train movements are erratic, due to the human element, if nothing else. And there's always "something else" on mountain railroads. The best a DS can do is issue orders permitting a train to make running time—if it falls down, the motor-car takes the rap. All this leads to endless arguments between the men on motor-cars and the dispatchers. Roadmaster McNeill and I are no exception to the rule.

I had bid in a vacation relief at Keddie and was going up a few days beforehand, in order to make some

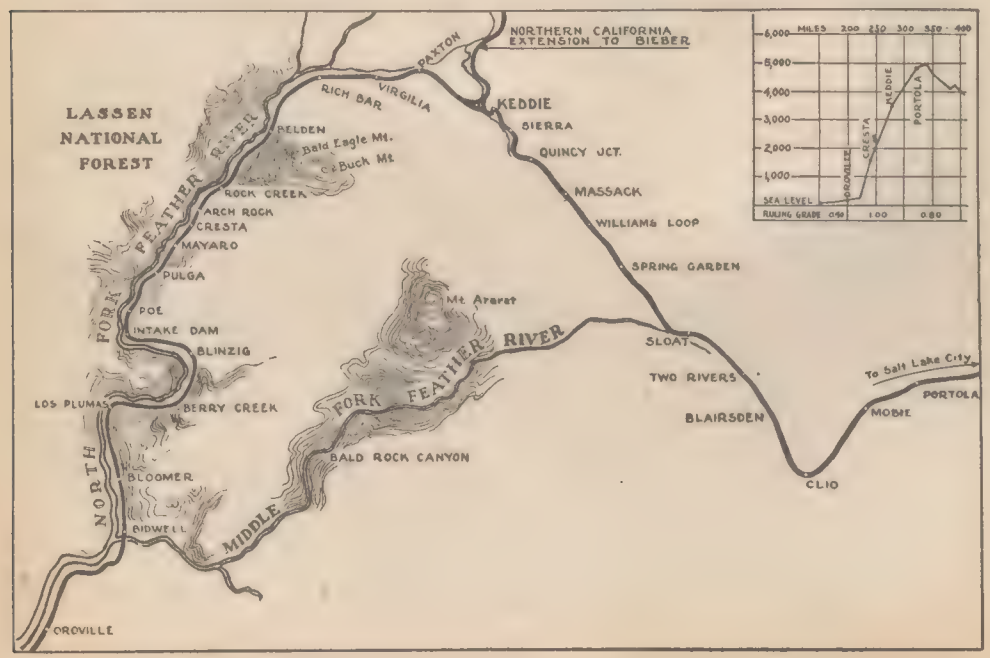
NO; not even a Mallet could get around this curve. But we had to drop out a quarter of a mile of track to bring you a clear picture of the Keddie yard layout. Main line from San Francisco enters from mouth of tunnel at extreme left—line to Beiber (where Western Pacific connects with Great Northern) reaches away to top of left page, while continuing main line to Salt Lake City leaves town at upper right. Small, shockproof concrete building opposite articulated engine in foreground will house new CTC apparatus

pictures, when I ran into Mac on the *Feather River Express*. My speed Graphic and other photographic junk, which I was unwilling to trust to the baggageman, excited his curiosity. I explained that I wanted to take snapshots of the Canyon, especially something in connection with the Centralized Traffic Control installation then just begun. Mac invited me to accompany him on his motor-car the next day while he distributed pay checks. So that was how this trip came about.

There are few places in the Canyon where a photographer can get from the highway to the railroad tracks, across the river, or even up the Canyon walls when they are on the same side. The Western Pacific maintains a continuous one-percent grade, while the highway may be below it at one point and a thousand feet above it at another. A fellow bent on making pictures is forced to stick mostly to the right-of-way, getting from one point to another as best he can—by train, motor-car or afoot.

Pictures shot from trains leave much to be desired. Shooting from the rear provides scenics at best. Shooting from the top of a train gets headless and tailless trains. If an uphill train goes into emergency, the photographer may find himself in the same category as the man on the flying trapeze—and he may not be as fortunate as a certain flagman who fell off the bridge at Paxton and lighted in a tree a hundred feet below, with scarcely a scratch.

Even if you like to hike, it's not fun to walk through railroad tunnels when there is no way of knowing when you will meet, or be overtaken by, a train. Crouched in the water or mud alongside a tunnel wall while a Mallet thunders upgrade with a tonnage train, or a downhill train rumbles by with smoking brake-shoes from retainers set up, is something to make you realize the joy of living —outside a tunnel. Which leaves the



rail motor-car as the best means of accomplishing this type of thing.

ANYWAY, after a good night's sleep, I was on hand at the Keddie depot. To one who has never been there, Keddie is a place a bit difficult to imagine—unique among the freak railroad spots of this country.

The town was named for Arthur Walter Keddie, who did much of the pioneer work which made the line through the Canyon possible. It was near here, in 1909, that Leonardo di Tomasso drove the last spike to connect the construction work from each end of the railroad, making it a continuous rail from Salt Lake City to Oakland.

The yard tracks, like most of the railroad, lay on a niche carved out of the mountainside, being a hundred feet or so above the river at this point. They follow the mountain curvature, of necessity. Extreme caution must be used in making yard movements to avoid striking cars or trains, because of the limited view. The roundhouse at the upper end of the yards is set back in a little draw. At the lower end is the now-famous wye, portrayed in Ripley's "Believe It or Not" as the most expensive in the world.

It is here the Northern California Extension from Beiber, where it connects with the Great Northern, intersects the main track through the Canyon. The NCE main track forms one leg of the wye, passing through a tunnel at this point, while the Canyon main track provides a second leg, and a connection between the two constitutes the third leg. The second and third legs are on massive curved bridges extending from where the main stem comes out a tunnel, across the river. *(See front cover.)*

One freak condition existing here is that an eastward main-line train, according to the timetable, runs almost due west according the compass; but negotiating the Canyon from Oroville to Portola, a train runs to every point of the compass, at one time or another.

"As Keddie goes, so goes the Mountain," is a true axiom. From three to five trains each way per day have to be handled through the little yard. As this place is located seventy-eight miles north of Oroville yard and forty miles south of Portola, it is a headache for the chief dispatcher to figure means of keeping traffic moving through without delay, especially in these days of peak traffic when power and crews are at a premium.

Main-line power and crews must be available for NCE trains coming down from Bieber. The chief must have a crew in sight on the NCE to handle anything, other than regular redball trains, before the train can be ordered out of Stockton yard, two terminals away. Once Keddie yard is allowed to become blocked, unscrambling it is like working a Chinese puzzle.

Keddie is the only point in the Canyon with a restaurant in which train and engine crews can eat, but the crew of not more than one train can be allowed to "put on the feedbag" there at a time. An opposing train must be held back at the first station until the arrival of the train whose crew are eating. Whereupon they can "get in the hole" to enjoy a meal, and the performance is repeated with trains opposing them. Imagine about four trains in each direction involved in a deal of this kind and you have some idea of what

WEARING GREEN for a following section, articulated giant 251 hauls eastbound war freight over Spanish Creek and into Keddie yards

happens to the "Mountain" when Keddie yard is blocked. Many crews that would not eat normally at certain times, are forced to do so by the delay, through trains as well as those moving NCE cars

We were just crossing the wye bridge at the end of Keddie yard when Mac announced his intention to make the most of the orders which had been issued him.

Among the orders we had received was one annulling Second 62 from David to Portola. David is a blind siding. One of three things were evident from this order, namely: The train running as Second 62 had been tied up at David for some reason, or it had been annulled and put on Number 78's schedule as a section, or the dispatcher had run them extra from David to Portola. If the latter, then there might be an eastward extra train on the main track at Virgilia, against which we held no orders.

Dispatcher Clifford working the Mountain that night, was so far as anyone knew, a perfectly safe man. On the other hand, taking a train off one schedule and putting it on as a section of another schedule at a blind siding takes a certain amount of maneuvering which even old head "delayers" dodge by the simple expedient of running the annulled train as an extra.

WE ZIZZED through the first tunnel at top speed. Those little cars can run, as I well knew in the beginning, for I had handled Mac up the hill one night in an emergency when he and Trainmaster McNally had attained passenger-train time.

"You can figure me making Forty's time," he told me at Oroville.

Number 40 is the *Exposition Flyer.* I didn't think he could do it. However, I handled him on meets, figuring that he would make that speed—and he did.

Needless to say, I didn't sit back, relax and enjoy the ride. Soon we entered the second tunnel. Riding through tunnels on a motor-car is, of itself, something to remember.

If we should meet a train, I thought, *I'll unload, pronto!* But if it should happen in a tunnel, that wouldn't work. The train would hit the pop-car, knocking her somewhere, probably to the high side of the track if the tunnel were curved. You'd have to do a nice job of split-second timing to leave the car just as the engine hit, in order to miss both locomotive and car. As we sped out of the second tunnel, Mac slammed on the brakes.

Good thing we were now on a curve where we could see for a little distance; otherwise, I'd have probably unloaded, speed Graphic and all. So engrossed had I been in my thoughts that I'd completely forgotten that the chief purpose of this trip was to deliver pay checks; and we were now approaching the outfit cars of a tunnel gang. Every minute we sat on the main track waiting for the men to sign for their wages was painful. At length, we took off again, leaving them in a cheerful mood, though they had no way of cashing their checks, until they could get to Oroville, Portola, or Quincy.

By the time we had stopped half a dozen times and finally arrived at the east switch at Twain, I was hoping that Mac would get in the siding and stay there—the suspense was awful. Driving around ten-degree

MEET in the canyon. Four-unit Diesel freight motors are only a part of Western Pacific's extensive plan for revolutionizing train operation. CTC installation will soon be completed through this region

curves, where you can see only five or six rail-lengths ahead, isn't an inspiring experience when you're in doubt as to whether or not you're moving on bum orders. If, in such a spot, you saw a train, you'd have just a second or less before you got smacked.

McNeill took out his watch. "Got time to make Virgilia," he announced, widening on the throttle.

I made no reply. We had running and clearance time, plus a few minutes to spare; but when Mac slammed on the brakes and started to deliver checks to a gang, I was sure my goose was cooked. It might even have made me happy to see the train barging around a curve and smack us while stopped—at least, I could get clear of the wreckage. The Roadmaster wound up his business and we took off again, just barely clearance time.

As we rounded the curve coming into Virgilia and there was no train in sight, I took my first deep breath in thirty minutes. It developed that First 78 had put the 11's through the siding at Belden, not Virgilia. I looked at Mac. I don't know how it all came about. What I do know is that I'll never again get sore at a man who questions his orders.

First 78 had run into difficulties at Rich Bar, having to set out a bad-order car, so we visited with the op and the crew of the work train until they arrived. Then we headed toward Rich Bar for Second and Third 78. Rich Bar, incidentally, was one of the richest mining spots in California at the time of the gold rush.

THE SECTION-HOUSE grounds here are the prettiest in the Canyon. The foreman, whose name I forget, took us over to his place

while we waited. His wife served coffee—and was it good!

When Third 78 rolled in, the hogger brought the train to a grinding stop.

"Thought we smelled wood smoke coming through the last tunnel," he shouted to the section foreman.

That was the signal for action. The moment the train cleared, Mac loaded the section boss and one man on the motor-car and we took off. Tunnel fires are something to reckon with.

Most tunnels are wet inside. However, those lined with wood accumulate a sort of fuzz which is highly inflammable. Trains without end may pass through them without setting a fire; then something like a carelessly tossed cigarette may start one, or sparks from a brake-shoe or hotbox. Accurately assigning a cause for a tunnel fire is almost impossible.

Anyway, this turned out to be a false alarm. There was no blaze of any description in nor around the tunnel. We left the section men to walk back, and were on our way. This wasn't inconsiderate—we held no authority to make a reverse movement. Seventeen freight trains might be following us, for all we knew.

Being in no great hurry, Mac stopped where Tunnel 15 used to be, to allow me to make some shots of the place as it is today. To say the least, our Mountain is so much the better railroad since the tunnel is no more; even though there was plenty of trouble getting it that way.

A freight train some months before had reported a fire in that tunnel. The engine crew saw no signs of fire, but the train crew did, which would seem to indicate that the train itself had set the tunnel on fire. However, there was no real basis for this assumption; thousands of other trains that had passed through the bore without setting it on fire.

By the time section forces could get there, the flames were out of control—a raging inferno which, I understand, is somewhat extraordinary. Another unusual aspect was the fact that flames came out both ends of the tunnel, instead of the draught carrying them out only one end, as is usually the case.

The tunnel was about 250 feet long, curving through an outcropping of rock; and when the timber bracing had burned just so much, the tunnel caved in. One man told of seeing a whole tree disappear into the hole! This caving proceeded, the fire still raging, as work was begun to blast out a shelf for a shoo-fly around the tunnel. Shortly after the shoo-fly was completed and a few trains had been gotten around it, the tunnel caved in again, this time in such a manner as to seal itself. Deprived of an outlet, the expanding gasses simply shattered the formations above, so the pressure could escape. This caused the mountain to fall down on the shoo-fly, or part of it.

When this mess had been cleaned away, the shoo-fly was thrown out to a twenty-degree curve in order to get the track far enough away from the face of the wall so that it would not be blocked by blasting, or by rock brought down for other reasons. This necessitated handling the rock over the track so as to dump it in the river.

It was still winter up there; snow and slush hampered operations. Drillers simply could not be kept at work. Thus the process of "daylighting" the tunnel was aggravated.

KEDDIE WYE, the costliest in the world, incorporates two trestles and as many tunnels

MEANWHILE, power had to be shifted in the most bewildering manner. Mallets and big passenger locomotives could not get around the twenty-degree curve. Only small steam engines and Diesels were available for use on the Mountain. There were not enough of the 5400 horsepower Diesels, which haul even heavier trains than the large Mallets; and it took four Consolidation types to handle a Mallet train up the grade.

As the formation was gradually blasted away, allowing more room between the face of the cliff and the track, the curvature was reduced by pulling the track in closer to the cliff. When this was sufficient to allow big power to get around, our troubles were over. The only real inconvenience to us then was about five to ten minutes delay to a train because of slow orders, which could be figured in the running time. Of course, there was some disruption occasionally when the powder monkeys set off a blast. Trains had to be held back until everything was clear.

At the time my photos were made, the track was in its permanent location. That is a bit further from the old inside tunnel wall then the original track location, which thus provides more room between the track and the wall should any more rock turn loose at a future date. And that was the end of Tunnel 15. Which brings to mind an amusing incident in connection with this work—the only time in my life when I deliberately gave two trains a "main-line meet."

A work train was operating between Merlin and Belden, just after the track was opened at Tunnel 15. This train was mainly concerned with assisting in the tunnel job. A motor-car moved west on train orders. I had given the work train all the time I could on the motor extra at Belden, then made them a strong wait at Camp Rodgers. The work extra reached Camp Rodgers all right and the conductor came in on the phone when the motor extra was ready to leave Belden.

"That's about all there is in it," I told the conductor. "He should be leaving Belden right away. You're going to be at the tunnel for some time handling that material and I have to get him by somehow."

"Well, how about a meet with him at the tunnel?"

"How the hell do you propose to get by?" I countered.

"We'll set him off the track," he said, "then pull by and put him back on."

"Here goes," I told him. "Copy two."

The work train and buzz-wagon were duly met on the main line without skids, thus saving considerable delay, for the motor-car also had work to do at Tunnel 15. This incident came to mind now.

The rest of our trip was more or less uneventful, although I never tire of the Canyon. Just going around one of those ten-degree curves the way Mac takes them keeps me wondering just what would happen if the puddle-jumper left the rails on a curve about three hundred feet above Feather River.

Says Mac: 'If you see a rock—jump! If you see a train—jump! If she climbs the track—hang on for all you're worth! The inside wheels will never climb over the outside rails."

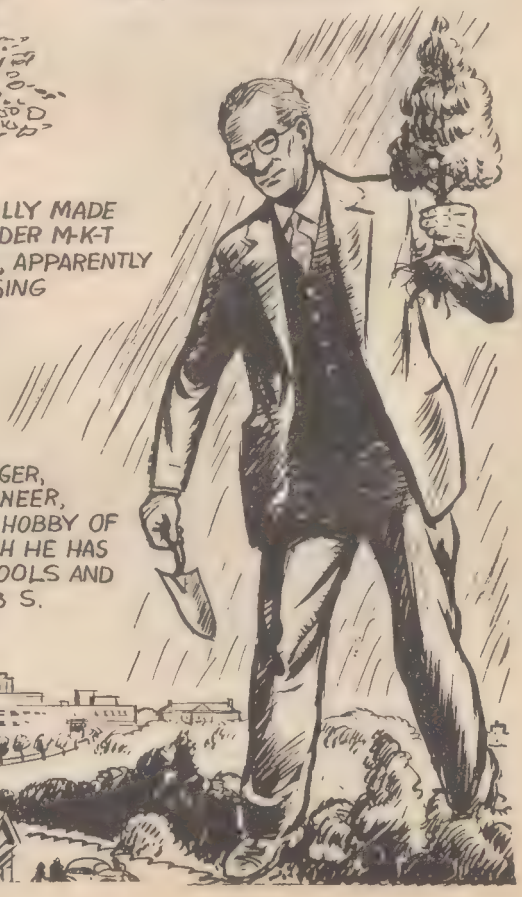
All of which worried me not at all, except between Keddie and Virgilia.

ALONG THE IRON PIKE

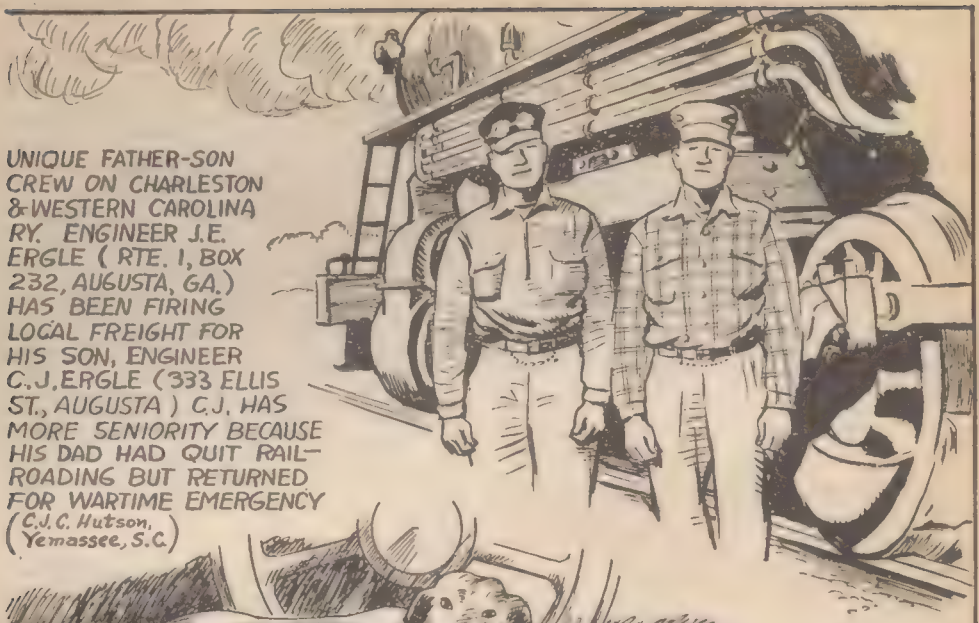
by JOE EASLEY

MAYBE YOU WONDERED WHAT BECAME OF MONSON MOTIVE POWER WHEN LAST 2-FOOT-GAGE LINE WAS ABANDONED. THIS VIEW OF MONSON NO. 3, ENROUTE TO SCRAP PILE ON BANGOR & AROOSTOOK FLATCAR, WAS COPIED FROM PHOTO MADE MAY 31, 1944, BY JOHN CARBONNEAN, ISLAND POND, VT.

DUCK ACTUALLY MADE A NEST AND LAID EGGS UNDER M-K-T TRACK NEAR TAYLOR, TEXAS, APPARENTLY NOT SCARED BY TRAINS PASSING OVERHEAD ("One Man Newspaper," Universal Pictures Co, Inc.)



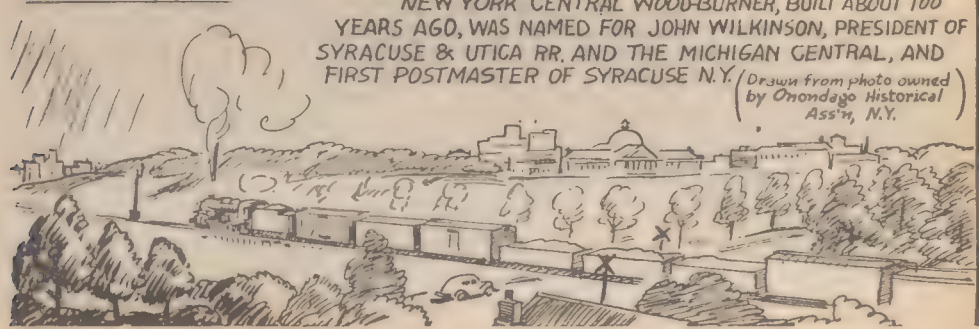
PUBLIC BENEFACTOR, HENRY J. BENNINGER, RETIRED C&EI **DIXIE EXPRESS** ENGINEER, WHO RAILROADED 48 YEARS, MAKES A HOBBY OF PLANTING TREES, THOUSANDS OF WHICH HE HAS DONATED TO ILLINOIS HOSPITALS, SCHOOLS AND OTHER INSTITUTIONS. HE LIVES AT 28 S. GRIFFIN ST., DANVILLE, ILL.



UNIQUE FATHER-SON CREW ON CHARLESTON & WESTERN CAROLINA RY. ENGINEER J.E. ERGLE (RTE. 1, BOX 232, AUGUSTA, GA.) HAS BEEN FIRING LOCAL FREIGHT FOR HIS SON, ENGINEER C.J. ERGLE (333 ELLIS ST., AUGUSTA) C.J. HAS MORE SENIORITY BECAUSE HIS DAD HAD QUIT RAILROADING BUT RETURNED FOR WARTIME EMERGENCY (C.J.C. Hutson, Yemassee, S.C.)

MINNIE, B&O ROUNDHOUSE MASCOT AT KEYSER, W. VA., FOR ABOUT 8 YEARS, HAS WHELPED 48 PUPPIES, MOST OF WHOM WERE TAKEN HOME BY RAILROADERS AS PETS (Chas. A. Steiding, B&O Magazine)

NEW YORK CENTRAL WOOD-BURNER, BUILT ABOUT 100 YEARS AGO, WAS NAMED FOR JOHN WILKINSON, PRESIDENT OF SYRACUSE & UTICA RR. AND THE MICHIGAN CENTRAL, AND FIRST POSTMASTER OF SYRACUSE N.Y. (Drawn from photo owned by Onondago Historical Ass'n, N.Y.)



International Boomer

I HAVE OFTEN WONDERED how many railroaders now employed in the United States or Canada hired out as early in life as I did, at the age of fifteen, and how many began to work for a railway company for wages as small as the sum I first received, less than a dollar and a half a week. It would be interesting to know, also, how many men have railroaded in the three countries through which I rambled as a boomer, first Scotland, then the States, and now the Dominion.

My rail career began "long ago and far away" at Chirnside, Scotland, a town of about 1400 inhabitants, where I lived with my parents. That was back in 1909. I signed up for a four-year apprenticeship with the old North British Railway, which was to pay me five shillings and nine pence (about $1.39) a week to start, with regular increases once a year until during my last twelve-month my weekly stipend would be eleven shillings and six pence (approximately $2.64). My duties were those of a "booker," or passenger, freight and express clerk. However, I did not have to lug around baggage and express—even the smallest hamlet in Scotland had porters for such tasks.

From the very first I was fascinated by the shiny brass telegraph outfit perched on a desk almost higher than my head. The instrument had a dial face and a needle controlled by two magnets which sounded alternately on a low-toned piece of brass at the left side and a higher-toned bar at the right. It was operated by a handle under the desk, somewhat like an old-fashioned wall telephone. There were no dashes, only dots. For instance, the word "Tom" would be made by striking the needle on the right side as follows: dot, dot-dot-dot, dot-dot. Within four months I learned to decipher messages in

the International code, first by watching the needle in motion, later by listening to it.

I had barely turned sixteen when I was sent out as relief clerk to a station fifty miles from home. After that I was assigned to relief tricks most of the time.

Local expresses in those days had no airbrakes, only hand appliances on the engine and caboose. The couplings were links and hooks, with spring buffers to take up the slack. Brakemen used a pole with a curly metal hook like a pig's tail to disconnect the couplings. Many's the time I saw men risk their limbs in this practice, setting the left foot and leg between the rails in order to secure more leverage.

A brakeman on way freight, an old gent named Jimmie Grieve, was so clumsy at tying 'em together that we could hardly keep a straight face while he was at work. Maybe our snickering was partly responsible for his maladroitness. Usually Mr. Grieve would miss the joint on his first try, and the engineer would move slowly down grade to have another go at it, the engine's impatient whistling blending in the clear night air with the brakeman's cussing.

Many veteran trainmen on the North British were relics of the days when flowing beards were the fad. For instance, Conductor Geordie Grieve, a relative of the brakeman with the butterfingers, made quite a spectacle with his iron-gray beard floating in the breeze as he came out on his caboose platform to salute us when his through freight rattled past. You couldn't help thinking what a fine chicken nest those whiskers would make. One day as he appeared on deck, his usual friendly grin was interrupted by a barrage of rotten hen fruit. The under-chin foliage didn't do much waving for a while; it was too heavily matted with scrambled eggs. Even

By ALEX S. HOME

now I can visualize the kindly old codger as he patiently combed the mess out of his hirsute adornment. Yes, some of us railway lads had a rather primitive sense of humor thirty-five years ago.

Another victim of our horseplay was a man temporarily employed as porter. But first let me explain that in Scotland grain is not loaded directly out of elevators into freight cars, as is the custom in the States and Canada. It is shipped in sacks which the railway company rents to the farmers, and at harvest time the lines take on extra porters to pack the bags in the "goods waggons" (boxcars). I remember the time some mischievous fellows, myself included, picked on one of those extra hands, running him ragged by placing torpedoes under cars so the noise would scare him when the wheels turned. We also enticed the poor fellow into our lamp room and locked it. Then we tossed torpedoes down the chimney into the open fireplace, frightening the man so badly that he buried his head in a bag of sawdust. This incident seemed very funny to us then, but is not quite so amusing now as I look at it down the corridor of time.

ALTHOUGH I had signed up for a four-year apprenticeship with the North British, I became restless in my second year and decided that promotion with that company would be too slow. My ambition was to become a telegraph operator. I heard that the State Railways in South Africa were paying pensions equivalent to sixty dollars a month to employes who'd had only twenty-five years of service. This prospect was alluring. Quite a number of Scotchmen and Englishmen had taken advantage of it, I was told, going to South Africa at about the age of twenty, working there a quarter-century, and returning to their native country while they were still in their prime and setting up a small business, with the pension as an ace in the hole.

After considering this matter from all angles, I finally decided that the climate in South Africa would be too hot to suit me, and I bought a one-way ticket to the United States instead. America was the land of opportunity, wasn't it? Maybe I could start out in the new world right away as a telegraph operator.

Of course, I'd have to learn Morse; the International code wasn't going to do me much good in North America. That gave me something to do to wile away the voyage. I borrowed an old table knife from the galley, nailed it by the handle to a wooden base, and was satisfied that when I tapped the end of the blade the noise sounded like a regular "bug." The gadget wasn't too realistic, but when the boat docked at New York in ten days I felt sure that I knew Morse.

I did not spend much time on sight-seeing in New York City. A friend of mine knew a lightning slinger on the Chicago & Alton and I was eager to see what he could do toward getting me a job. Arriving at Mason City, Illinois, on March 2nd, 1911, I tried to hire out as an op; but they gave me a preliminary test which convinced me that it takes more than playing with a toy bug to be able to keep up with the fast *rat-tat-tat* of the real thing.

However, I landed a job as assistant baggage master in the union station at Bloomington, Illinois. To my dismay, I learned that American depots did not provide porters to do the lifting for their agents. I lasted just four weeks under the strain of carrying heavy mail bags to and from the head office and handling baggage on scores of trains for the four roads which used the station. One day a drummer's heavy trunk slipped, mashing one of my fingers, and that washed me up there.

Next I worked in Atlanta, in the same state, as assistant agent, on the night trick at $25 a month. Here all I had to do was handle tickets and mail. Minne Watt, the agent, was a good scout. When I told him how badly I wanted to be a brass pounder, Mr. Watt did all he could to coach me. It was tough going. For weeks I felt that I'd never get the hang of it. Then one night, when I was lying on the ink-stained old desk trying to get some shut-eye, the ticker started buzzing. To my amazement, I was able to grasp the

entire message. My unexpected proficiency was so surprising that I toppled right off the desk, scattering ink well and papers, and sat down at the instrument to call Baker, the tower operator. Just for fun, I asked him how a certain train was running. That was the first telegraph message I ever sent.

Word soon got around that I could sling lightning. When a vacancy occurred at Sinclair, also in Illinois, I was given the agency, after only two months in the U.S.A. At first the boys derived a lot of mirth from my boners. Sometimes when I was in a hurry I'd get flustered, forget what country I was railroading in and mix the International code with my Morse. I made my debut at Sinclair by reporting, when asked for a yard check: "Three cattle wagons, one bogie, one coal wagon, two vans." They all knew that I meant "three stock cars, one flat, one gondola and two boxcars," but I got the horse laugh anyhow.

THE MANUAL BLOCK system at Sinclair was operated by switch telegraph, which caused me plenty of annoyance. One Saturday night I tumbled into bed at the end of my twelve-hour trick. After several hours between the sheets I heard the *Kansas City Flyer* whistle impatiently for signals, then grind to a stop. In a haze I sensed that somebody was pounding on my door and hollering: "Scottie, what's the idea? You've stopped the Flyer."

"It canna be," I muttered, rolling sleepily from bed. I hurried out in my pajamas and crawled under the train to clear it. Next morning I awoke to find my bed saturated with oil and grease, from the tracks under the train. Well, I didn't get fired, even though I half expected it, for stopping the express; but it took me months to live down that remark, "It canna be." Whenever a local stopped for orders, the conductor would find some excuse to wag his head and intone those words in a phony Scotch accent.

Gradually I felt more at home, though, and began pulling an occasional joke myself. For instance, when Jacksonville cut out on the block wire, I could make a connection between Jack Williams, an old bachelor agent, and a lady op stationed south of Jacksonville. I'd pretend I was Jack, and make dates with the lady for him. They may have caught on to my Scotch humor, but neither of them complained. Quite possibly the two appreciated my services as Cupid.

A station agent in those days had to be alert against gyps of many kinds. On one occasion I happened to see a farmer smuggling into a cattle car a young cow which was partly paralyzed. Not realizing that he was observed, the man went right on building a wooden frame to support the crippled animal. In course of time the company received a bill for $37 for a broken leg and bruises suffered by a calf. When the farmer was in town marketing several days later, I buttonholed him and threatened to expose him before his congregation. Yes, believe it or not, he was a pillar of the local church. Of course, the culprit promptly and blusteringly saw the error of his ways. The Chicago & Alton claim agent congratulated me for the good work, though he never understood exactly how I managed to get that claim canceled.

I also kept an eye on trainmen. One of their favorite stunts was spreading corn to attract chickens into empty stock cars, then slamming the door shut. When the train got in motion they'd go after the fowls with a billy. This maneuver rarely succeeded when I was around. After all, I had got my start in Scotland, where almost every conceivable "economical" trick had been tried.

It seems that I was as successful in staving off meddling with my affairs as I was in hindering frauds against the company. Some kind of sixth sense told me in advance when Mr. Mosslander, the traveling auditor, was visiting our division. By the time he arrived he'd find everything in order, not only at my station but at all the nearby offices, at least at those where the agents were wise enough to heed my warning.

HOME AT WORK. Author was slinging lightning for Chicago & Alton at Sinclair, Ill., only two months after his arrival in U. S.

It was a happy day when the company eventually gave me a hand-car to use in getting out to the switch lamps at the ends of the passing tracks to clean them. That speeder came in mighty handy for making trips to Jacksonville, fourteen miles away, where the girl I eventually married was employed. Her boss took a fancy to me and offered me $125 a month—just twice what the C&A was paying—to work in the St. Louis office of his grain business. I cabled my aging father for advice.

"Laddie," the word came back, "ye learned a trade with the railways. Stick to it."

Stick to it I did, and I never regretted my decision to remain a railway telegrapher. But after a while I did get tired working so long on the same pike, so I headed for St. Louis and went to the Order of Railroad Telegraphers for job advice. I was tested on intercommunication instruments, then was told to report to the Frisco's yard office at Tower Grove.

"If they don't take you on," the ORT man told me, "try the Missouri Pacific Both roads are crying for help."

WELL, the Frisco needed men all right, but the fishy-eyed trainmaster who interviewed me couldn't see giving me transportation. The MoP had a more liberal policy, though. That night I was riding the cushions to Coffeyville to work on the Southern Kansas Division. I was sent out to relieve the agent at Penaloosa, on the Larned branch.

What a dump that town was—penal servitude, I called it! One short street of ugly false-front houses and down-at-the-heel was all there was. If it hadn't rained at that time I don't believe I would have had the courage to enter the wood-shingle firetrap which claimed to be a hotel. The danger of fire was bearable because it was remote; but there was nothing remote about the free boarders in my bed, if you get what I mean. I quickly regretted my move.

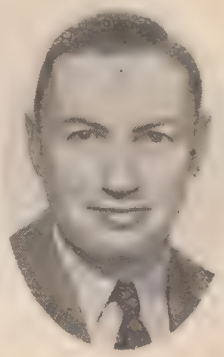
Luckily I was only two weeks at Penaloosa. Then I worked a while at Winfield, and next went on to Neodesha Junction as agent. Two boomers who were quitting the station there had left everything in confusion. Among other stupidities, they had thrown out yards of interline tickets without bothering to check routings.

Most of the sales of tickets there were to foreign laborers and Indians bound for points in Oklahoma and Missouri, so I couldn't blame my predecessors too much for not always understanding their customers' wishes. The combination of broken English and the Indian town names in Oklahoma was really tough on the ears. I figured out a system of my own. When somebody would ask for a ticket to an Oklahoma town with an unpronounceable name, I'd show him a map so he could point out the spot to me. If he could read it was easy to fix him up. Otherwise, I'd just sell him transportation to Coffeyville, the junction with the Frisco, and let the next agent worry from there on.

I put in several months at Neodesha Junction. After that I worked at Vernon, and then got the agency at Sycamore, a

pretty little town on the Verdigras River, all in Kansas. First chance we got, my wife and I went fishing in the stream. The fish were highly susceptible to our bait, but after we had cooked them they tasted like coal oil. In the belief that the frying-pan might be dirty, my wife scrubbed it out and tossed in some more fillets. The new batch tasted just as rank. Later, we learned that nearby oil refineries spilled waste into the river, and the fish absorbed it in their systems, making them unpalatable.

Ugly-looking rattlesnakes sunned themselves among the rocks just outside of town. Usually I could spot them in advance and steer clear. Once, though, I opened the telephone box in the waiting-room and out jumped six horny toads. They were grotesque to look at but quite harmless. I never learned what jokester had put them there.



Alex S. Home

Sycamore would have been a nice place to live in if the summer heat had been less sweltering. I sweated myself down to 127 pounds and my wife also lost weight. In September, 1913, I resigned from the MoP and returned to Illinois, bearing a letter stating "services excellent." That testimonial was enough to get me back on the C&A. It was then a practice of the Alton to issue periodical bulletins listing all the positions which were open, so that a fellow could apply for the ones he preferred. Somehow my name was left off the mailing list, and the company was handing me unpopular work, occasionally sending me to stations where accounts needed clearing up or something else was wrong. I went from one miserable job to another, but Granville, Illinois, was the "straw that broke the camel's back." Hundreds of cars were interchanged there each day with the New York Central and the Milwaukee Road, yet I had no safe, no telephone and no assistance. After I had done about sixteen hours of work each day I couldn't even get a decent night's sleep, for I had to rotate on a bed which was occupied by a brakeman in the daytime.

As a sample of how things were run, when I first arrived at that station I saw the interchange sheets between the three roads were 'way behind.

"What do you expect me to do with all that stuff?" I asked the boomer who was then in charge.

"I'll take care of it for you," he said casually, yanking a whole sheaf of papers off the hook and cramming them into the red-hot stove.

Granville was a big, brawling foreign settlement. The main item of freight we handled seemed to be booze. Bums looking for something to drink often bored holes near the lock of the freight shed to get at the bottles. Naturally, I wouldn't have my wife reside in a place like that. I sent her to Montreal, Canada, where my parents were then living.

Early in 1914 a lot of German-Americans returned from Germany to the nearby town of Washburn, Illinois. Their air of tension made it evident that war was brewing. Desiring to get back under the Union Jack before the trouble started, I kissed the C&A a fond good-bye and set off for Montreal. It was good to see my wife and parents again.

I TOOK a job in the Canadian Pacific's chief accounting office. Here I was put at a long high desk. Dozens of pencil pushers worked in that small crowded room under the baleful eyes of a supervisor. The latter's surveillance was decidedly unpleasant, so when lunch hour came I set out and found other employment. The same afternoon I was working for the Montreal & Southern Counties, an electric road managed by the Grand Trunk. My starting salary was $65 a month, which exceeded by $2.50 the amount the CPR was going to pay me.

Among my duties with the M&SC was

emptying cash boxes and counting up the fares in order to keep a check on the earnings of various trolley routes. Almost every day the box from one certain line contained, besides the usual likenesses of George V, at least one strange coin—maybe Chinesse, with a hole punched in it; or a token issued a century ago by the Hudson's Bay Company; or one with French, Italian or some other foreign inscription. When I scraped the dirt off one old coin it turned out to be a gold-piece bearing the stern visage of an ancient Roman emperor. My guess was that a youngster had robbed his father's coin collection in order to cheat the transit company. Anyhow, I soon built up a pretty good collection myself that way.

In November, 1915, I made another change. I signed up with the Canadian Northern (now Canadian National) and spent the winter in upper Ontario, wading through snow up to my waist to call crews and check boxcars. Prospectors were striking gold in that territory, but more were finding fool's gold. I discovered a big shiny lump of the latter and sent it to my brother in Montreal as a joke. He promptly took it to be assayed. The chemist must have enjoyed innocent fun, too, for he pronounced the rock a valuable mixture of copper, gold and silver. My brother joyously wired me instructions to stake a claim for him. When word about that telegram got around among the railway men, they raised cain with me for not letting them in on the "strike" in preference to outsiders. The news spread far and wide. Train crews made unscheduled stops at my station to quiz me about it. I had some difficulty in convincing them that I hadn't actually hit a rich vein.

About that time some of my friends were going to work for the newly organized Algoma Central, so I did too. They hired me as agent at Hawk Junction, Ontario, agreeing to pay me $125 a month and a commission. By the time I reached the Junction my salary had dwindled to $85. Things weren't going so well, I was informed. I was sore and told them to send me relief immediately. In the meantime, I wasn't going to do any more work than was necessary.

I never bothered to plow through the accumulation of old bills-of-lading which cluttered the desk to a depth of about two feet, although I did keep my current papers up to date. Under the circumstances, the job wasn't too hard; but I still knew I could get more money elsewhere. The war had sent wages up, and working in the Far North was naturally better paid than in more civilized places. My wife took care of the train-order work at Hawk Junction while I did the dispatching.

As soon as another agent arrived, I hired out on the Canadian Government Railways up at Hearst, Ontario, northern termius of the Algoma Central. That was strange country. Lots of times when we had lightning you could see it streaking along the ground. Maybe that phenomenon was caused by the minerals which abounded in the soil, or by the Northern Lights. The weird glow of the Aurora Borealis was beautiful to look at, but brought on many a headache. Something about it caused the telegraph wires to snap every once in a while. At other times heavy snow or falling trees would break the lines. Often I was isolated from the dispatcher and had to move trains by transmitting orders via Franz on the Canadian Pacific and Oba on the Canadian Northern.

The Indians around Hearst were peculiar. They'd make death signs across the trap lines of white men, hoping to scare them off, and bedeviled the railways by various means. One day a bunch of aborigines tramped into the station without bothering to kick the snow off their moccasins. Evidently full of fire-water, they spat at the stove and otherwise made themselves obnoxious.

"Where did you hang around before the railway came?" I asked them angrily.

"In the woods," the spokesman said.

"Well, get the devil out of here!" I ordered. "Go back to the woods!"

They walked sullenly out and stopped to hold a council of war. As I peered

through the window I saw them take two pieces of birch bark and scrawl Indian characters on them, then stick the placards up in a tree at each end of the station. I thought they were putting the "Indian sign" on me, but an old-timer who was in the shanty buying a ticket said they had merely written my name in two versions of the Cree language. Nevertheless, all the redskins and halfbreeds who got off the train at Hearst would look at those markers, glare in at me, and make for the woods. They seemed to get the idea I was bad medicine for them.

I'LL NEVER FORGET the night the transcontinental passenger highballed through my red board. I was about to hurl a lantern through one of the speeding coaches when a Negro porter saw the stop signal and threw on the air. The train backed up a mile to the station. The engineer and fireman admitted they had been dozing; they were exhausted from hauling wheat drags all day long. My wife and I were the only witnesses to the incident and we did not report it.

That was a near-wreck. I saw several real ones while at Hearst. Even on my way up there the train I was riding hit an old mine switch near Tashota. Engines, express car and baggage car took to the siding, rolled over on their sides and skidded along the rocks and hard frozen snow. Many passengers were badly shaken. All the trucks were torn off the cars. I got off with a bump on the head and just enough headache to make me pessimistic about the new job I was heading for.

It wasn't long after I got established at Hearst that an accident occurred on our division. About a mile and a half south of Jacobs was a fairly deep rut which had to be shimmed heavily because of the frost. One cold night a freight train was rambling along with a hotbox burning away unnoticed. The friction sheared the axle and the train was derailed at the hill. By the time the wrecking crew had it almost rerailed, along came a passenger train and jumped the tracks in the same cut. The coaches were leaning in both directions against the banks of the gulch. Well, my fingers soon ached from the lightning necessitated by those two wrecks, but things were due to get worse before they became better. Another freight drag ditched herself at the same spot. I was on the job almost five days—steady. Sometimes I started to drowse over my desk when I'd hear the instrument buzz, and I would strain my fagged brain to make sense out of the sounds and answer them.

At least, after 110 miserable hours of this, the mess was cleared up. I was about to get some real shut-eye when an old friend, Alex Bundock, stepped from a varnish job. He said he was on his way to Montreal after having thrown up the agency at Kathmore, Ontario, on the Canadian Northern. That position had been offered to me but I had refused it. I wondered why Chief Dispatcher Fox had been so anxious to get me; now I was to learn. Alex said I had missed a lot of excitement.

"When you wouldn't fill in at Kathmore," he explained, "Fox persuaded me to go there. As soon as I got off the train the dispatcher who'd been holding it down temporarily pushed up the steps of the coach without even waiting to talk to me. He was carrying a big valise and he had his bedding in a careless bunch under his arm, evidently in a hurry to get out.

"I sat around the shack till late afternoon without much to do. A section gang was bunking upstairs, but hadn't come in yet. About five o'clock I thought I heard footsteps, then dishes rattling. I looked out but couldn't see anything. Shortly afterward the gandy dancers trooped in from their work. I could hear them talking a while above me, then they went to bed. In an hour a sound like wrestling woke me up. Next morning I asked the men why they hadn't invited me up to see the wrestling match.

" 'We wasn't rasslin',' " one of them said.

" 'Well, what the devil was the noise?' " I asked.

"They mumbled something which gave me the impression they were reluctant to

discuss the matter, then piled on their puddle-jumper and bounced up the line. That day I heard footsteps off and on again, and at night there was even more commotion on the floor above.

"This funny business kept up several days. Maybe the trackmen were trying to get my goat, I thought. However, they managed to look serious whenever I queried them. The fourth night the foreman came down and asked if he could sleep in my room. He said he couldn't rest upstairs, but wouldn't give further details.

"Around midnight all hell broke loose. There was a rumbling noise in the office. I dashed in there and saw the coal-oil lamp and the telegraph instrument dancing around. They were haloed in gray vapor. Then I saw—or thought I saw—a woman's figure in a long robe with a slit up one side and blood streaming down her face. This apparition seemed to glide past me, walk around my cot, and make a graceful exit through the solid wall. Well, I guess you know the whole gang of us sat up all that night. Couldn't sleep a wink. As soon as daylight came, the section men hit the ties," Alex concluded, "and I grabbed the first train."

MY FRIEND'S STORY sounded more than a bit fishy, but I learned later that a Bridge and Buildings master claimed to have had a similar experience at the same place. Thereafter, nobody was willing to work in that old building, so the company had it torn down and a new one built a quarter-mile down the tracks.

A couple of years later I heard more about this "haunted" depot. One Saturday afternoon, when I was employed as Canadian Pacific agent at Keppel, Saskatchewan, a bunch of farmers gathered in the station to swap yarns around the glowing stove. One fellow started off with a tale about a haunted station in Ontario.

"Don't tell me the name—let me tell you," I interrupted. "It is Kathmore?"

"That's right," he said. "How'd you know?"

I told him of Alex's experiences, and then listened to the rest of his story. It seems that the farmer's nephew had been one of the section gang housed in that mysterious building. The lad come home one day white as a table-cloth. Said he'd walked the whole twenty miles from the station. He acted funny and for several days his folks couldn't get him to tell what was wrong. Eventually he related how an uninvited woman in a slit gown had appeared several times in the room where the section hands were quartered. He declared that the wraith had even come in while they were sitting around reading and had knocked the papers out of their hands. Evidently that was when Alex first heard the rumpus.

One big fellow took a Bible to bed with him at night for protection. He said he was going to ask the specter what it was looking for, so maybe he could help it to find rest. But, so the story goes, it crawled in bed with him and he just lay there panic-stricken, unable to utter a word. Next morning when the station agent asked what had caused the disturbance, the men thought it might have their imagination, and so were reluctant to talk. Later, according to the narrative, when the ghost transferred its activities downstairs and the trackmen knew that Alex saw it too, they lit out.

It developed that the station had been built on the site of an old lumber camp. Years before, a woman who had hung around the camp disappeared under strange circumstances, without leaving a clue. Was she coming back nightly, trying to put the finger on her murderer? Or was it all pure hallucination? Your guess is as good as mine. All I know on the subject is what was told to me second-hand.

When I worked at Hawke Junction on the Algoma Central the house we occupied was a log cabin which had been erected by construction engineers years before. My wife and I both had a feeling that we were always being watched in that house. But this was not supernatural. Conductor Frazer later told us that he had seen an old crone, the section foreman's wife, snoop-

ing around the grounds and peering in the windows, evidently looking for material for gossip.

Toward the end of the war I bid in on the agency at Kapuskasing, also in Ontario. This station was a heavy job, handling all the rail movements for an enemy internment camp. I got the night trick, while a poetic-natured fellow named Milton York was awarded the day turn. York and I reached Kapuskasing about the same time, and found the two former agents in the military guard house, where they had been put for drunkenness and for insulting the officers. We couldn't even get in the safe at the depot. Both men had forgotten the combination. We were glad to bail them out of the clink, sober them up, and set them on their way.

The only other real railway employe at Kapuskasing was a lad who helped out as night operator, but there were plenty of workers around there who didn't hold Brotherhood cards. Every morning gangs of Germans, Austrians and a few Turks would be brought out to the yard and, under the command of Army officers, made to shove freight cars around by the good old "armstrong" method. Several of them didn't like it and tried to make a break. One got to Michigan—that was before the United States entered the war—and several died in the bushes of cold or hunger.

In 1916 I spent the whole summer training for the Auxiliary Canadian Officers Training Corps, but when it came to entering the regular Army they turned me down for a minor defect. I then tried to get into the Canadian Railway Corps, which was bound for Russia, and missed out there also. But I have no doubt my work as a railway telegrapher was as great a help to the first World war effort as anything I might have done in uniform.

I'm doing my part in the present war, too. After pounding brass on the Esquimalt & Nanaimo for three years, I went to work for the Canadian Government as relay operator at Campbell River, B. C., where I am now located. Much of the time on this job I deal directly with the Canadian National and Canadian Pacific.

Frank P. Savage

A Night I'll Never Forget

By FRANK P. SAVAGE

A LONG PROCESSION of years troops across my mind as I think back over the experiences I have had in dispatching trains on many roads in two countries, the United States and Mexico. If you were to ask me to pick out one event that stands out more vividly than all the others, I would tell you about a wild night in February, 1917.

That is a time I will never forget. I worked for the Santa Fe then and was sitting in on the transfer at Winslow, Arizona. Some Easterners think of that section as a perpetually hot desert country, with iguanas and armadillos crawling

HE struggled through the snow to get help

lazily into the shade of giant cactus plants to escape the year-'round blazing sun. If you are one of the uninformed folks who cherish that illusion, you'd better wake up and stop dreaming. On the night of which I write a blizzard was howling. It raged over mountains to the west and far down into the flatlands on either side. There had been no let-up since early morning. Throughout that night and the following day the storm continued with unabated fury.

Midnight reports indicated eight inches of dry snow at Winslow, nineteen at Angel, fifty-seven at Flagstaff and Williams, twelve at Fairview, rain at Ash Fork, seven inches of snow at Crookton, and rain at Seligman—all in 143 miles of westbound track or 146 eastbound. This stretch ranged in altitude from 4850 feet above sea level at Winslow to 7355 at Riordan, then down to about Winslow's level at Ash Fork and again at Seligman, with a hump of several hundred feet between the two, over the summit at Crookton.

All trains were running late, some many hours behind schedule, and each was doubleheaded with the heaviest power available. The flange plow from Williams already had made one round trip in the early evening, going to Angel on the eastbound track and returning on the westbound through Flagstaff, Williams and Johnson's Canyon to Fairview, then back up the eastbound track to Williams. A second time the plow fought its way eastward. It turned and was following Second 3 from Angel as I came to work.

First and Second 3 rolled out of Flagstaff shortly after midnight. A little later Number 21 was cleared at Winslow with a long string of waits, and a twenty-minute run-late on those figures. There were two westbound freight trains in the dark between Winslow and Flagstaff, one between Flagstaff and Williams, one between Williams and Ash Fork, and two more between Ash Fork and Seligman. Eastbound freight traffic was equally heavy, with four early-morning passenger trains coming up.

All night the dispatcher's phone kept ringing. The Superintendent, Trainmaster, Roadmaster, Road Foreman of Engines, section bosses, signal maintainers, train and enginemen, and telegraph operators were continually seeking the whereabouts of various trains and any help I could give them. All seemed to be talking at the same time, and things were in a whirl. Our Chief Dispatcher was in the office at frequent intervals, keeping tabs on the movement of trains over the

entire division, especially on the Third District. His clerk also was there, leaning over the dispatcher's shoulders, first on one side, then on the other, in search of information for the morning reports. I could hardly find time to answer questions and issue the necessary orders to keep trains moving. Believe me, it was a madhouse!

The flange plow left Flagstaff an hour behind Second 3. Forty minutes later it was stalled in a cut half a mile east of Bellemont and could neither back up or move forward. A brakeman struggled into Bellemont through snow belt-high to call for help. At that moment a westbound freight happened to be taking water at Flagstaff, and the leading engine was ordered to cut off and go to the rescue. This move proved useless, as you might have been expected, for the freight engine also stalled, a hundred feet from the plow, and soon was hopelessly buried in a drift that covered the running-board halfway up on the side of the boiler.

The westbound track was blocked for sure! We could not do anything but "single" the eastbound track between Williams and Flagstaff, and run Number 21, as well as the freight, to Williams with right over eastward trains. This was done. Every siding and spur along the thirty-four miles of single track was snowed in, so we began moving trains in fleets, first in one direction, then in the other.

First-class trains could proceed on their schedule rights under single-track rules when permitted to do so, but were handled mostly by train orders. We had no second-class schedules on the Third District. Freights were cleared from terminals as extras, being thus designated in train orders. When it became necessary to "single" a stretch of track, extra trains required running orders in addition to the single-track order addressed and delivered to all trains involved.

A WESTBOUND FREIGHT pulled slowly into the snow-blanketed yard at Williams. First and Second 3, following, came down the main to the passenger station, exchanged sleepers with the Grand Canyon line, and were soon on their way to the land of sunshine and roses. The westbound freight trailed them out as an eastbound headed in through the crossover. First and Second 3's helpers cut off at Supai and returned to Williams, coupled. There they waited for Number 21 and the westbound freight, and were first to go east. The freight followed them out.

Halfway to Flagstaff, in open country up near the San Francisco peaks, Bellemont is one of the windy spots of the West. As the helpers raced down the long straight-away, where trains are likely to roll at high speed, the wind blew a gale and the air was full of snow. The men in the cab failed to see the water-spout, which had swung toward the track, and the leading engine hit it, breaking off the stand-pipe close to the ground.

The tank—a Santa Fe standard, twenty-four feet in diameter and sixty feet high—had been full of water; but before the main valve could be closed, forty feet had escaped and had run up and down the westbound track at will until it was frozen solid. Fortunately, however, the water did not reach the eastbound track, which was "singled," and that route was kept open.

As each morning passenger train showed up at Seligman and was cleared, a helper was ordered at Ash Fork to double-head it through to Flagstaff. And as some of the crews needed rest and others were up against the sixteen-hour law, we had quite a problem to supply helpers without delaying trains. Then, to make matters worse, the freight following Second 3 from Williams derailed several cars in Johnson's Canyon, near Fairview, and held up two much needed helpers behind it!

The east- and westbound tracks between Crookton and Pineveta, also between Fairview and Supai, were miles apart in places, and the stations had different names. In singling the eastbound track between Ash Fork and Williams, eastward

first-class trains could proceed on their timetable rights, but westwards could do so only by train order, and even then only as extras.

Number 21 rumbled down the mountain as an extra, against the current of traffic, and met Number 2 at Corva, and First and Second 4 at Fairview, and had right over Number 8 to the double-track at Ash Fork. There the helper cut out and doubleheaded Number 8 back to Winslow.

A heavy-tonnage freight followed Eight out of Ash Fork and was doing well on the grade of ninety-five feet to the mile for nineteen miles, until a boulder weighing a ton or more tumbled down the mountainside and collided with the helper, damaging the bypass valve and putting it out of service. The road engine then moved the disabled helper to Williams shop for repairs, and made two round trips to get the train in to clear.

The Superintendent came on the phone about seven o'clock to ask how things were progressing. I replied:

"Just fine! If I can hold out till eight o'clock I'm not going to be on speaking terms with anyone for the next sixteen hours—I'm about talked out!"

He took it as a joke—which, of course, was as I had intended it. Then I told him the story. It seemed that everything which had ever happened on any railroad had occurred there.

THAT was what I thought then—but I was wrong, there was more to come!

At 7:30 a. m. every wire over the mountain, including the dispatcher's 'phone, suddenly went out of business, leaving me without contact west of Flagstaff. A big pine tree up near Riordan had fallen, taking the wires with it, and relieving me of seventy-nine miles of troublesome railroad, much of it then single track.

However, I still had sixty-seven miles that required careful attention until I was able to transfer the same, along with my goodwill and best wishes, to the first-trick dispatcher. I sure was glad to get away and call it a night. And what a night it had been! I had issued a hundred and eight train orders, and moved twenty-seven trains, many of them not mentioned here. Having talked, figured and fought steadily for more than eight hours, I was really tired.

And I was still tired at 11:30 that night when I came back for more of the same grind. At that time the train-sheet showed sixty-four train movements between Williams and Flagstaff on single track.

The storm had been the worst in many years. Several days passed before a big rotary plow, brought over from in Kansas, cleared up for us, restoring double-track operation once more. Our district had been slow in getting back to normal; but when it was all over, the brass hats, from the General Manager down, expressed their personal appreciation of the manner in which everyone concerned had handled the situation under conditions which could not have been more trying.

Today, a few old-timers whom I have had the pleasure of knowing in the past are still on the Albuquerque Division. The great majority, however, have long since retired, and some have crossed the Great Divide. Back in railroad service "for the duration," though playing a minor part, I find contentment on the job at Chiloquin, Ore., and peace of mind, such as I had once given up all hope of ever enjoying again. It's a great feeling to be playing a part, however small, in the tremendous battle of transportation which is speeding this war to an end.

I have been here since February, 1943, working for Southern Pacific as clerk and telegraph operator. It is a busy train-order station, averaging about forty trains a day.

Photo by Ed Mantz, Supt. Hagerstown & Frederick Ry.

WHAT'S this scene got to do with ***Electric Lines?*** Plenty. For the government scrap reclamation center at Frederick, Md., has brought new life to one interurban line

Electric Lines

Conducted by
S. D. MAGUIRE

Hagerstown & Frederick

TRANSFORMED from a wandering country interurban line into a busy freight road which handles more traffic than it ever dreamed of in its palmiest era of expansion—that's the Hagerstown & Frederick Railway of today.

True the present, compact H&F system doesn't spread its fingers of rail over the miles of terrain it once covered. But the hand is still there—a vigorous hand that has given Uncle Sam no small lift in the days since Pearl Harbor.

Operating today as the Railway Division of the Potomac Edison Co., it is more often referred to by its older but more appropriate name. For the *main line* still remains, in memory, the twenty-nine miles of track between the important cities of Hagerstown and Frederick, in the heart of Maryland.

One could hardly imagine a more beautiful location for an interurban than the historic Blue Ridge Mountain region of central Maryland. It was in the city of Frederick, famed as the home of Barbara Freitchie, that the H&F was born way back on August 18th, 1906, when the Frederick & Middletown Electric Ry. was opened for service on the nine miles of newly-laid 60-pound rail.

The early history of the H&F is the story of a number of small lines that eventually were brought under single control as the Hagerstown & Frederick, formed on March 22, 1913. In general, the new system embraced three separate operations—the lines in and out of Hagerstown, in and out of Frederick, and a steam pike, the Washington, Frederick & Gettysburg Railroad, running between Frederick and Thurmont, where it had interchange with the Western Maryland Railway.

TOP: Sunlight dabs the wooden sheathing of H&F equipment in Frederick caryard. Lineup includes line-car 15, Nos. 167 and 164 (passenger), and freight motor No. 3

CENTER: Routeage of the Hagerstown & Frederick. Dotted lines indicate abandoned trackage

BOTTOM: Old freight unit bought by H&F from another road and pressed into wartime service

The latter had been consolidated with Frederick's city lines, in 1909, to form the Frederick Railroad. One year later electrification of trackage to Thurmont was completed for passenger service (juice freight operation followed as soon as motors were obtained in 1911). Next, the lines of the Hagerstown Railway were taken over by the Frederick system, and out of these, as we have seen, the Hagerstown & Frederick emerged.

Records show that the consolidated network operated seventy-five miles of track and owned twenty-five closed cars, twenty-four open cars, one hundred and twenty-five freight cars, one express car, four work cars and five locomotives. Rail was of the sixty- and seventy-pound variety, and the entire route was single-tracked with turnouts at intervals. It wandered across country, up and down hills with few trestles or fills, following the ground level almost without exception, and winding around the hummocks with enough graceful curves to please the most aesthetically inclined.

South from Hagerstown one route straggled to Williamsport, on the banks of the Potomac River. Another went north ten miles to Shady Grove, over the Pennsylvania state line, where a connection was made with the Chambersburg, Greencastle & Waynesboro Electric, an outfit whose stock was owned by the H&F but which operated independently.

In addition to the highly scenic main stem, involving grades of up to 8 percent (near Middletown), H&F maintained its city service in both Hagerstown and Frederick, while operating two busy branches forking from the high iron. One extended to Boonsboro, the other to Jefferson. Freight, as well as passenger service, was carried on at the east end of the main line and to Jefferson. But no carload or l.c.l. stuff ever went into Hagerstown.

At Frederick there was interchange with the B&O and the PRR. North of there routeage was primarily for freight, with passenger service provided only at intervals.

HOWEVER beautiful all of these lines may have been, those which gave passenger service alone were the first to fall prey to the competition of the automobile. In 1929 the initial blow fell when CG&W was abandoned. With it went the need for the connecting link to Shady Grove.

PASSENGER CAR No. 160 reels off the Blue Ridge miles between Middletown and Myersville. This trackage has just been abandoned

Within the next few years passenger service on the city lines disappeared, as did the Boonsboro spur. Through traffic between Hagerstown and Frederick also dropped and late in 1938 the portion between the first named city and Myersville was abandoned, leaving the six-mile Williamsport line isolated from the Frederick lines. 1942 saw the end of the Jefferson spur, which had discontinued passenger service earlier and now did not have enough freight to support a regular haul.

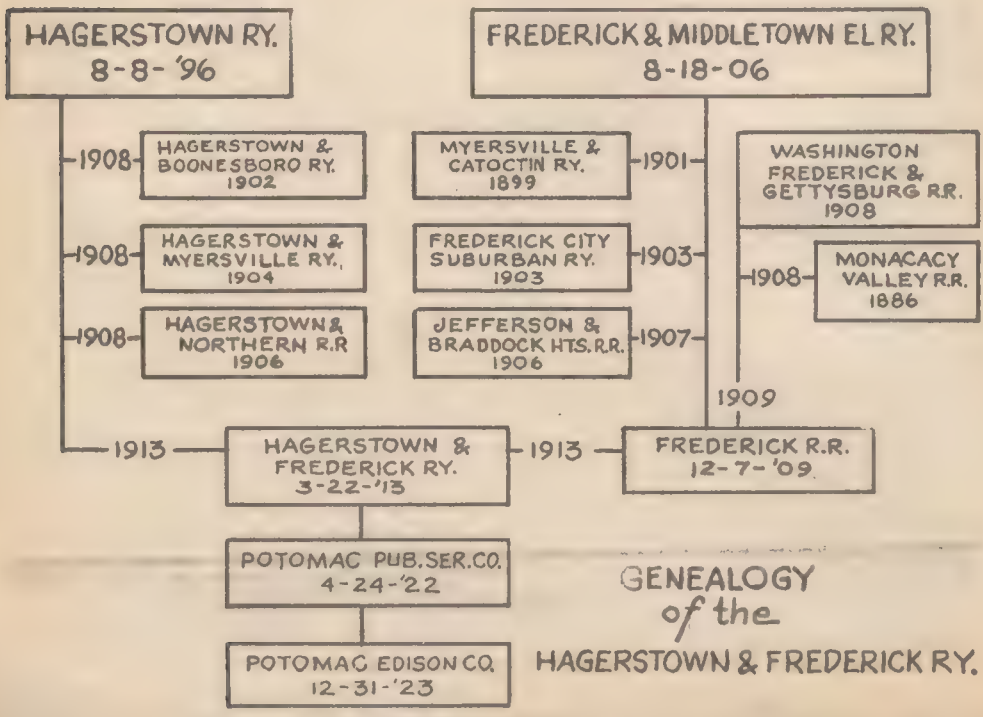
In the last two years, though, with almost one-half of the original trackage out of use, we find the H&F entering the most important and busy period of its history. Frederick has become a busy war center and several important Army depots are now located along the Thurmont line. Interchange traffic with the steam lines is constantly pouring into and out of Barbara Freitchie's old home town. So heavy is the traffic that the substation at Myersville had to be transplanted into the city to give adequate power. This brought about the abandonment of the five miles of rail between Middletown and Myersville on December 31st, 1944.

With the addition of several new freight motors recently, H&F has eighteen passenger and freight cars. Most of the latter

are in use around Frederick, while three passenger jobs are giving half-hourly service on the Williamsport-Hagerstown run. The rest work out of Frederick to Thurmont, or to Braddock Heights and Middletown.

So, in these busy days, we find the old H&F, no longer the scenic mountain trolley line, but, instead, a really busy freight and passenger system giving the best service it has ever offered, over really strategic trackage, to important Army depots and factories in the "Heart of Maryland."

RATIO between passenger and freight business is illustrated by Combine 164



ANOTHER view of the 160, enroute between Middletown and Myersville

Equipment of the Hagerstown & Frederick Railway

No.	Type	Builder	Year	Motors	Division	Pass. Cap.
1	Frt. Motor	S Ry.	1918	4 WH–577W8	Frederick	.....
2	Switcher	Baldwin	1910	2 WH–308B2	Frederick	.....
3	Switcher	Baldwin	1914	2 GE–55H	Frederick	.....
4	Switcher	Baldwin	1914	2 GE–55H	Frederick	.....
5	Frt. Motor	H&F	1920	4 WH–547A6	Frederick	.....
7	Work Car	H&F	1927	4 WH–101B2	Frederick	.....
8	Line & Work	H&F	1902	4 GE–88B	Hagerstown	.....
9	Frt. Motor	W&OD	1918	4 WH–93A2	Frederick	.....
10	Elec. Loco.	Baldwin	1912	4 WH–301D2	Frederick	.....
15	Line Car	CG&W	1917	2 WH–68	Frederick	.....
48	Passenger	Brill	1924	4 GE–264	Frederick	40
164	Combine	Brill	1910	4 WH–306	Frederick	24
167	Combine	Brill	1914	4 WH–101B2	Frederick	48
168	Combine	Brill	1917	4 WH–101B2	Hagerstown	48
169	Combine	Brill	1917	4 GE–201A	Hagerstown	48
170	Combine	Brill	1917	4 GE–201A	Frederick	48
171	Combine	Brill	1919	4 GE–201A	Frederick	48
172	Combine	Brill	1921	4 WH–101B2	Hagerstown	48

1 is former Cap. Tr. Co. 017; earlier WB&A motor.
9 is former Wash. & Old Dominion 25.
10 is former Hampton & Langley Field 200; earlier Conn. Co. 1054.
15 and 48 are former CG&W equipment.

H&F MOTORS 2 and 4, ready to pull out of the car yard in Frederick

Car Barn Comment

Steve Maguire

OCCASIONALLY you may see photos in *Electric Lines,* and in other sections of *Railroad Magazine,* which do not carry any credit line, or which may seem to bear insufficient information.

No doubt you wonder at the omission. Well, we frequently wonder, too, but what is more disturbing is that we receive letters from the donor of the photographs asking why no credit was given.

The answer, in almost every case, is that when the shot was sent to us, the writer did not take just an extra minute to put his name and address on the back, with enough information about the subject so that we do not have to play a guessing game.

* * *

POST-WAR Notes: Washington, D. C. is considering a plan for a 7-mile streetcar subway system in the center of the Capitol City, according to Pvt. Chas. Chaloux, Service Det., 2511th Service Unit, Fort Meyer, Va.

Costing $56,000,000 this plan now being studied by the city Commissioners, would call for three subway routes that would carry cars of many lines underground through the most congested portions of the city, and would eliminate 21 miles of surface track.

Cleveland, now operating its own municipal system, is studying numerous proposals for rapid transit rail lines after the war, reports Bill Clason, 10106 Curran Ave., Cleveland 11, Ohio.

The Cleveland Transit Commission plans on using the right of way of several steam roads to bring cars into the downtown city from suburbs, and then switching them on a subway of their own, to reach the Square, center of the city.

Not all is harmony in Cleveland, however. The Euclid Avenue Assn., representing merchants along that important thoroughfare, is asking for replacement of the cars with buses.

"The remarkable results attained in other cities where this program has been carried out offer convincing proof of its desirability," says the Association. Undoubtedly these gentlemen have never visited any of the large municipalities having most successful subway and rapid transit lines. Wonder what Clevelanders would give for a subway network like that of New York, Boston or Philadelphia?

"The real object behind the abandonment of trolleys on Euclid Avenue," according to Bill Clason, "is to show the people the miserable service they will get when cars are removed, in order that they will demand that something be done. Then action may really be taken on the much-needed plan to run a subway under Euclid Ave."

British Columbia Electric Ry. has announced a 50-million dollar post-war rehabilitation plan, according to *Interurban News-Letter,* published monthly by Cpl. Ira Swett, Camp Pinedale, Fresno, Calif.

Of this amount, $14,000,000 will be spent for new PCC cars and buses, streetcars to be used on the main arteries, with buses on lighter and feeder routes.

President Murrin of BCER reports, "No one type of vehicle can serve Vancouver . . . Toronto has only streetcars . . . Seattle is specializing in trolley coaches. . . . The best advice we can secure is in favor of a combination. . . ."

San Francisco is in an unusual position at present, and it is almost impossible to determine what plans may eventually be accepted. The recent merger of Market Street Railway with the Municipal line has created confusion more than anything else.

This much is known: the two outside tracks on Market Street's famed four-track route will be removed and the inside tracks renewed. Trackless trolleys may be used on some of the lighter rail lines.

Present municipal ownership is scorned by one Muny employe who writes: "Pay checks are one to six days late now and we are besieged with spotters who often come close to outnumbering the platform-men, of which we are very short."

Melbourne, Australia, will spend two or three million pounds to extend its streetcar lines into the suburbs, displacing the hitherto all-conquering motorbus, reports Ronald F. Leonard, of Larchmont, Ralphs Ride, Bracknell Berks, England. Mr. Leonard goes on to say that Melbourne is renowned for its fast and efficient tram system which

includes a number of PCC type cars. Another Australian city, Sydney, will receive new cars—three hundred in number—for its two hundred and eighty-three miles of track, constituting the largest system in the Continent.

New Haven, Conn., plans to change all remaining surface lines to bus routes after the war, announces Sid Silleck, Country Club Apts., Hartsdale, N. Y. He says that thirty-five of the open cars are now being destroyed and the remainder will go as soon as the company can get enough buses to handle the Yale Bowl's eighty-thousand capacity crowds.

A set of fare gates will be erected and the tens of thousands of patrons will be expected to take buses to and from the games, in place of the open cars that have operated so long and faithfully that they have become an institution.

* * *

"COLLEGE buys trolley company." So read the Sioux City newspaper headlines, and it's true, for Sioux City Service Co., which operates the local streetcar lines, has just been bought by Morningside College of the same city.

Elmer R. Carr, 143 N. Ransom St., Ottumwa, Ia., who reported the news, says that he doesn't know what the college wants with the trolley lines, but they have formed a corporation to operate them, the Sioux City Transit Co.

Perhaps some reader can explain this strange purchase.

* * *

"MY VOTE for the first steel streetcar goes to car 2356 of the Metropolitan St. Ry. of New York City, which appeared on that city's streets in June, 1905," suggests L. O. King, 3114 N St., Washington, D. C.

"This may be the same car you suggested as having been operated by the Union Railway, another New York outfit. As I recall it, it was of conventional MSR design, built by Pressed Steel Car Co., and ran on the Broadway line for many years," adds Mr. King.

* * *

LOS ANGELES has a *local* streetcar line that passes through at least four cities on a 7-cent fare, reports Vernon Axt, 3463 Floresta Ave., Los Angeles 43, Calif. This route is the "J" line and starts at Jefferson and 10th in down town Los Angeles, runs through the industrial district, and passes into the City of Vernon. After traversing the entire city, it continues through neighboring Huntington Park. Beyond there is a mile of open country and after that, the "J" car enters the city of South Gate where it terminates.

"The service is carried on by PCC cars on three to four minute schedules and in spite of the frequent service, cars carry standing loads both day and night," comments Mr. Axt.

Photo from Robert Davidson, Box 42 Rock City Falls, N. Y.

AIR-COOLED 0-B-0, alias *Ampere*, gets a workout on the 42-inch gage Saratoga, Mt. McGregor & Lake George Railroad around 1885. Forty volts, passing through two-rail distribution system, put new life into horses at grade crossings

RAILROADS are good customers for ice: New York Central cuts its own; garnered 14,500 tons from Black River, N. Y. last year

Winter on the Iron

RIGHT: Cascade Summit, Wash., digs itself out after visit from an NP wedge plow. BELOW: Three men on a plow; Fonda, Johnstown & Gloversville snow train battles upstate (N. Y.) blizzard

Photo (below) by Harold F. Lowry

Photos by C. L. Scott (above) and Arthur Kelley

ABOVE: White-bearded CPR Pacific wheezes into Agassiz, British Columbia, with transcontinental express

BELOW: Maine Central doubleheaded by 10-wheelers in minus 20 temperature at Portland, N. H.

Snowplow Job

YOU HADN'T BEEN BRAKING very long, that raw winter morning when you stood at the window gazing out at snow drifted high against the fences. Big softly-falling flakes of the night before had changed to fine, hard-driven stuff that was almost like sand as it scurried before a howling wind. You thought of your pal, Charley, whom you knew must be out on the line somewhere battling the storm in the effort to get his train through the terminal, and though you felt sorry for him, it made the snug warmth of your living-room all the more comfortable.

Presently your dad, a freight conductor, rose from his seat by the glowing base-burner and joined you at the window, watching the blizzard with troubled face.

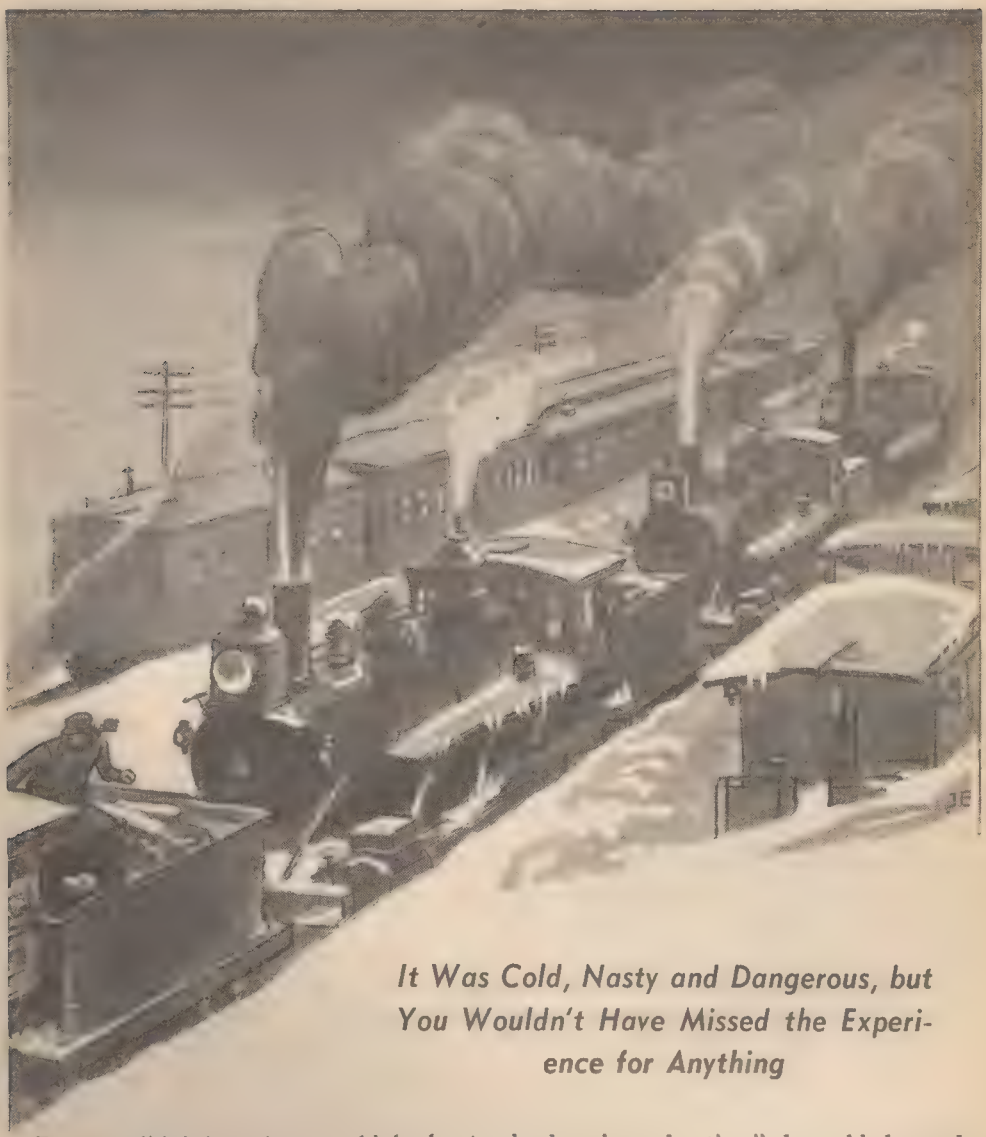
"How many times out," he asked, "were you when you got in yesterday?" He was referring, of course, to the number of men on the extra board that would be called ahead of you.

"Four times out," you replied. "Why?"

"Well, this has all the earmarks of a snowed-in division, if they have to run a plow train you stand just about right to catch it. That's sure one damn cold, disagreeable, dangerous job. I'd like it better if you didn't get it, at least until you're more experienced than you are now."

That reference to your inexperience didn't set so good with you. Like all the other boys who were sons of railroad men, you knew railroading by precept, book and rote. Even though you had learned, since going on the board, of the vast difference between academic knowledge and the real doing it, the fact that your dad spoke of more experience sorter made you feel that he relegated you to the student class and riled you up.

By WILLIAM F. KNAPKE



It Was Cold, Nasty and Dangerous, but You Wouldn't Have Missed the Experience for Anything

But you didn't have long to think about it, for at that moment a small figure with body, head and ears muffled, came struggling up the street and turned in at your gate and up to the door. Answering his knock, you admitted the callboy to the hallway.

"Wancha for the snowplow, 9:45 an' you're gettin' out wid Conductor Johns," he stated, shoving out his little black book that he had brought forth from the inner recesses of his multitudinous garments. "An' youse'll find 'er all togedder on the lead an' ready t'go," he added sagely.

The energetic youngster turned toward the door, to make his departure, just as your dad spoke.

"How do I stand, Jimmie?"

"First out, but dat don't mean a t'ing, cause de division's tied up tighter'n Dick's hat-band. Two freights an' number 7 are snowed in som'ers in the bad lands between Eros and Holman. De wires are down an' dey don't hear nothin' from 'em."

Thus Jimmie, with the easy familiar

equality that callboys invariably assume toward grey-haired conductors and engineers, replied to your dad's question.

"Well I gotta roust out anudder shack," he added, "so I'll shake a leg. Don't get too much snow down your neck." And with an impish grin, Jimmie departed into the storm.

Acting on your dad's advice, you dressed extra warmly for the trip, and then went to the yard. Standing on the lead, you found the strangest assortment of equipment you had yet encountered. First you saw an old-type and now obsolete eight-wheeler. Her pilot and oil-burning headlight had been removed. In place of the pilot was a wedge-shaped shield, bolted firmly to the pilot beam and with heavy braces, curved to pass between boiler and valve stem, extending from the top of the wedge to the frame of the engine and solidly bolted. The cab's front windows had heavy planks secured over them. The front side windows were protected the same way, while the sliding windows of the cab had the glass protected with a heavy tin sheet. Extra heavy storm curtains covered the gangway and front part of tank.

As you arrived, a couple of roundhouse men crawled from under the engine. Curious, you looked to see what they had been working on. You noticed that the oak blocking had been secured between engine shackle bar and engine frame, and you wondered the reason. The eagle-eye, Henry Snyder, explained:

"Well, when we've used most of 'er coal and water, the tank will not be very heavy, so that when we ram into some tough drift and with those three 'gines shoving hell outta us, they're liable to put the tank right up through this cab. That blocking takes up the play in the shackle bar, an' won't let the tank raise above the chafing plates."

Taking it for granted that you would work the smoky end, you, as all head brakemen of that period were taught to do, climbed up and took a gander on the top of the tank to see there was a plentiful supply of links and pins. When you started to climb, you stopped and stared in astonishment. The next engine behind was coupled into your tender, not with the regular pilot bar but with a ten-by-ten oak timber. This timber was covered on its four sides with iron plates, bolted through the timber, with slots in the end just large enough to admit half the link, the other half of which was entered in the engine's drawbar.

You didn't have to inquire the purpose of that arrangement. A moment's reflection told you that otherwise, with two more engines behind that one and the one in front, if the train were halted suddenly by a drift, the regular pilot bar would be bent double, and that in turn would drive the nose of the pilot into the ties or tear the brake rigging off the tank ahead.

As you inspected the other 'gines, in turn, you found the same arrangements between them. Yep, you had four engines, the smallest in the lead and three big ones behind her. It didn't make good sense to you, to put that dinky teakettle ahead, instead of one of the big powerful locos.

You looked over the rest of the train to see what equipment you were handling. Next to the engines was a short heavy-looking flatcar, its weight increased by a couple of layers of worn-out rails spiked to its deck, these rails surmounted by a large box. The box, judging from the large spouted buckets that hung from hooks in its side, must contain "seashore" for the engines. At first glance it appeared that the flatcar had five brake-wheels. Then you noticed that while one brake-staff was in the proper place, the other four were at the corners of the car. When you walked up to inspect they turned out to be, not brake-staffs but threaded shafts with an ordinary brake-wheel on the upper end, while the end below the car was attached to a pivoted tool that looked like an overgrown lathe tool with a side "finger" about three inches longer than the cutting edge.

When you saw those tools you knew that car was a flanger. You also knew it was used in places where several inches of

ice—too heavy and thick to be broken by the weight of the engine—would be found covering the rails. The flanger would be switched ahead of one of the helper engines, the tools at the forward corners of the car would be screwed down by the aforementioned threaded shafts, and the forward motion of the car would plane the ice from the rails.

Just behind the flanger was a car of coal for use as engine fuel and cook car. Next came the "block car" from the wrecker outfit; it contained ropes, chains, wood blocks of varied shapes and sizes and other material that would be useful in case of accident. Then the cook and dining car, which also belonged to the wrecker. Behind that was coupled a day coach—one with heating stoves, as there was no steam connection to an engine. This coach, you knew, was taken along for the use of the section men, car men, a couple of machinists from the roundhouse, and linemen to repair the broken telegraph circuit. The section men would do any snow shoveling that might be necessary when drifts were encountered that could not be "bucked" through. Last, but in no sense of the word to be considered least, was the good old crummy; and you met Conductor Johns emerging from its door as you got to it.

"Where d'you want me to work?" you inquired.

"You take the peaked end outta here." Johns grinned. "Only there's no peaked end on this job. But you work ahead for awhile; then I'll have you an' Lathrop change places. How'll that be?"

"Okay with me," and you followed him up to the head end, where you heard him instruct the eagle-eye:

"Stop at each section house and pick up the gang. From the best information they've got, we won't find much trouble till we get to the bad lands. We own the road from here to Midway and back. There's nothing to look out for except two freights and one passenger that are dead on account of the twelve-hour limit.

To make slick, easy shaves a snap,
So toughest whiskers lose the scrap,
Use Thin Gillettes—save dough and time—
Four thrifty blades cost just a dime!
Made of easy-flexing steel hard enough to cut glass
Gillette
BLADES
4 for 10¢
Produced By The Maker Of The Famous Gillette Blue Blade

They haven't heard from them, so you'll have to keep your eye skinned. Let's go!"

As you started up in the gangway of the eight-wheeler, Johns stopped you.

"It's all right to ride that engine out of here, but when we get to heavy drifts I want you to drop back to the third or fourth engine. That engine crew has to take the chance of their tank being shoved on top of the boiler, but you don't. You wouldn't do a bit of good there; you wouldn't help the boys. In fact, you'd probably be in the way if they had to unload in a hurry. So you drop back—that's an order."

Engineer Snyder blasted the whistle twice. The other engines answered in turn and the wheels began to roll. You swung up into the gangway, under the storm curtain, and found that cab looking a lot different from any other cab you had ever been in. The boarded windows sure made it gloomy. After one look, you decided that the front end of the tallowpot's seatbox wouldn't be much of an observation post, so you stood in the gangway and peered around the corner of the cab just as you passed the main-line switch.

Ahead stretched an unbroken, almost level, field of white only a couple of feet deep. The plow tossed snow to each side, wind catching the loose particles and flinging them back in a blinding cloud. While you had not expected high speed, you were surprised to find that about ten miles an hour was the gait the engineer held. You commented on it, also asked why this teakettle was put ahead of those larger Moguls.

Snyder patiently explained: "If we ran any faster, we'd kick up such a cloud of snow that we couldn't see a thing until we slammed into it. At this speed I can see most of the time. And as for this small 'gine being in the lead—well, you're going to find that we'll be on the ground a lotta times before we get through with this mess, an' it's easier to drag this baby back on the rails than it is one of those big engines."

Thus he explained another of those moves, seemingly contrary to good sense, that had you guessing at the reason.

You stopped at a couple of section houses. There the gangs boarded the coach, to be boisterously greeted by the men already on the train. It was a sort of "get-together" for those whose work and territory kept them apart except on occasions like this.

Soon you became tired of having snow thrown in your face and down your neck, and you beat a retreat to the refuge of the tallow's cushion.

The eagle-eye called, "Come over here!"

When you crossed the cab, he told you to step in the gangway and look ahead. You were approaching the first deep cut that had yet been met. Ahead and from bank to bank of the cut lay a great ridge of snow, higher than the cab. The view beyond was totally obscured. Snyder closed the throttle, whistled a stop to the helpers, and said:

"Climb on top of the cab and see if you can look over that heap, will you?"

You did and could barely see over the top of the drift. The entire cut was filled from end to end, which news you reported when you clambered down again.

"Well, here goes!" said Snyder, and whistled off. Mindful of the conductor's warning, you dropped into the deep snow beside the track and caught the last engine as she came to you. The old girls were working easily, but presently began to slow. Down toward the company notch the Johnson bars moved, out toward the gangway came the throttles, and down upon the rails poured the "seashore," while four 'gines dug in their toes and shoved mightily.

You watched ahead and patted yourself on the back for leaving that eight-wheeler. She wasn't even visible now, for the snow was rolling back over her stack, boiler and cab. The snow in the cut boiled up and over the banks of the cut, as a plow turns a furrow. Steadily, irresistibly the engines thrust forward. The walls of snow, higher than a boxcar roof, slid by the gangway a bare couple of feet from your face.

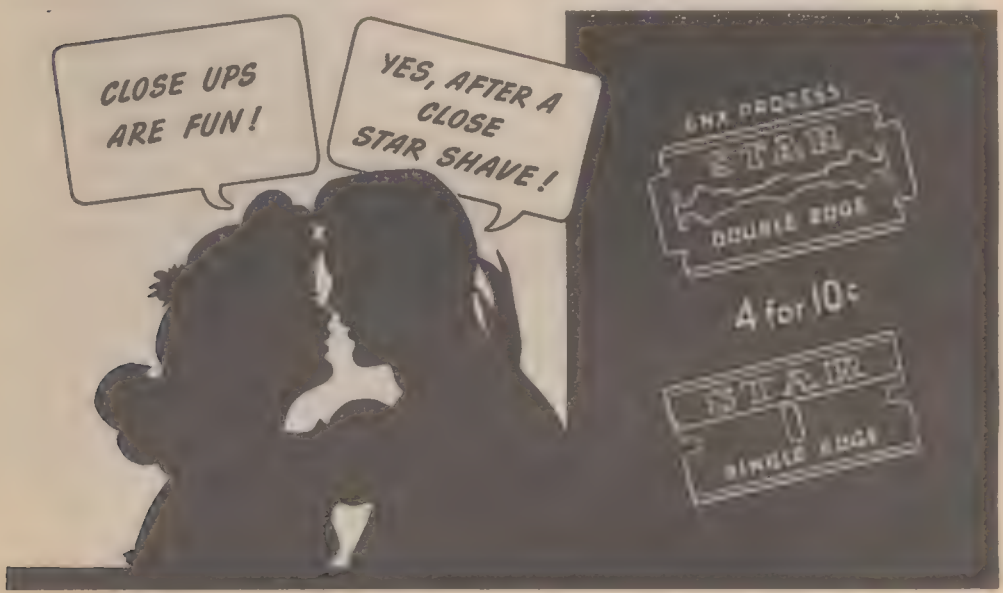
Suddenly the train surged ahead and out of the cut, like a cork spewed from a bottle. You had plowed your first cut! From there on, the cuts and high drifts became more and more frequent, for you were nearing that part of the division called the bad lands. It was so termed from its fancied resemblance to the bad lands of the West and was a succession of cuts and fills through rough irregular hills and gullies. Somewhere in this fifteen mile stretch the three stranded trains were supposed to be. Before entering the bad lands your train stopped at the last water tank—a tank supplied by a shallow lake. The pumper greeted you with the news that only enough water for two engines was available. Evidently the pump had taken up all the unfrozen water in the lake. After a consultation the engineers decided to take water on the two rear engines; and again you wondered why, but this time you didn't ask. You recalled the advice an old boomer, with whom you had broke in as a student once gave you.

"Keep your eyes open and your mouth shut. Th' other fellow'll think you're a lot wiser than you are if you don't ask too damn many questions."

It wasn't long before you had the answer. At the next cut, when the two lead engines were far enough inside that the banks were the height of the tanks, the train again came to a halt. Several section men struggled through the snow, carrying long planks. The planks were laid with one end resting on the tank and the other end on the high bank of the cut. The balance of the men—and there was a young army of 'em by this time—climbed the banks, and you thought for a minute that they were about to start a snowball fight. Some made large snowballs, but instead of throwing them the men dropped them on the ground and rolled them toward the planks.

By that time the balls were large enough to give their rollers quite a tussle. Across the planks and over the open manhole of the tank came the huge balls. There they were chopped to bits, which fell into the tank and were promptly converted back to *aqua pura* by the steam from the injector's heaters—just another lesson in the never-failing ingenuity of the American railroadman!

While part of the gang was engaged at this task, you and the engine crews were summoned for dinner. The eats were not elaborate, but they were sure filling and plentiful. A heaping plate of pork 'n



beans, fresh bread 'n butter, spuds with their Irish overcoats on and a quarter of thick juicy apple pie, washed down by strong, fragrant coffee.

By the time you were through eating and returned to the head end, the tanks were full and you were ready to go. Again the shove, heave and struggle of forcing the plow through repeatedly. It was a stubbornly resisting mass, but you won that contest.

At the next cut the first real difficulty was met, for while the start was just about as the others before it had been, presently the train slowed more and more until, even with the levers down in the corner and throttles wide open, the train came to a halt. The train backed a hundred feet, the engines cut off and they charged at the drift, but not as fast as you had expected, for they depended on weight not speed. Twelve or fifteen feet further the plow was driven till they again stalled. Back—charge—back—charge! They hit again and again, each time driving the little engine a few feet further into the almost unyielding wall until "perseverance and elbow grease" overcame all difficulties and you finally made it through.

A mile beyond that you found the first of the snowbound trains, a freight. Forty-eight hours before, it had been Number 243 of a certain date, but now lay forlornly, *sans* rights, *sans* identity, *sans* just about everything except a tired, hungry crew, all huddled on their engine because the caboose fuel had long ago given out. Conductor Johns had orders for this crew that permitted them to proceed, if able.

You sized up the layout and wondered, with snow drifted against the cars half their height and between and under, how they'd ever manage to move. Another lesson for you, for your train plowed on up the main line beyond the switch and then backed up between switches. Section men shoveled enough snow from the siding to permit your engines to back in on it. Of course, you could not get in without the aid of your plow, and that was on the wrong end to do any backing on uncleared track. All of your engines were cut off from the train, and again proceeded as far as they had plowed. There the eight-wheeler was cut off and left standing, while the other three backed in against the rear of the dead freight.

Now, some readers are going to ask why you didn't leave your train on the main and plow with your engines, instead of making the apparently unnecessary move of pulling the train over the switch and then backing it to where it had stood. Tell them it was to save the section men, who cleared the siding, from having to wade through all that waist-deep snow from their coach to the far switch. The little engine was left on the main because, in backing the plow, she would have dragged the snow of the none-too-well cleared siding to the center of the track.

The three 'gines, coupled to the crummy and taking but a third of the train, shook the snow loose by taking slack corner length they dragged out and shoved up the main the cut they had. Then they backed in and repeated with the middle third, but with the front portion. They shoved it out onto the main line, returned, built the train to its original shape, and gave the now rejuvenated train a parting and helpful boost toward home.

Not far beyond that point you run over a half-dozen guns planted on the rails. That flagman was going to make certain there'd be enough to attract attention. A short distance beyond, you came upon a curl of blue smoke near the track and a bedraggled figure beside it, waving a red flag with a where-the-hell-you-been motion. The figure told you:

"Number Seven, or what used to be Number Seven, is standing on the main line just around that next curve. You'll be a mighty welcome sight to the people on it, 'cause the grub's just about give out and the eagle-eye hadda cut down the heat to save his coal."

Carefully you proceeded until the engines were almost pilot to pilot. You wondered, as you had so often that trip, how those engines could be coupled, with that stack-high shield on your engine and

the long pilot of the passenger engine toward it. A couple of roundhouse men appeared and removed something you hadn't noticed before, an iron plate. That was square in front of the engine drawbar and covered an opening large enough to permit one of those emergency wooden coupling timbers to be inserted and, with the pilot bar of the passenger engine removed, allowed the two to be coupled. The section men had swarmed around the stalled train and soon shoveled it free enough that you could pull it loose and back to the nearest siding. There you let it go on its way, if not rejoicing at least more content.

At the very next drift you saw the advantage of having the small engine ahead, for the train had not much more than started into the cut when, from your place in the gangway of one of the rear 'gines, you saw the eight-wheeler swerve and head for the side of the cut. You let out a yell just as Snyder whooped the whistle.

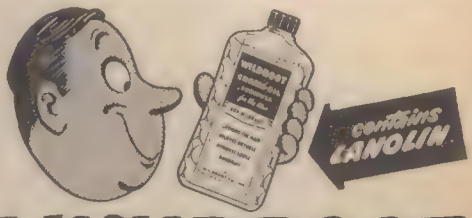
Wading ahead, you found all wheels of the leading engine off the rails and in shape that would have rendered it impossible for her to help herself, but the three Moguls had no difficulty in pulling her back and rerailing her. This part of the cut had a slight sag in the track, in which water had accumulated and frozen. Then back went the eight-wheeler to the nearest siding. The flanger switched ahead, and again the plow engine was left, while the others handled the flanging job. You rode the flanger to give signals. Two carmen parked themselves at the corner wheels to handle the flanging tools. You stopped 'em just at the edge of the ice, and the cutters were screwed down.

After seeing these 'gines shove through snow many feet deep you didn't think it would take much effort to remove a few inches of ice. Boy, what a rough ride! The tools would catch, tear loose a foot or two of ice, and catch again. The car would buck-jump and vibrate as though it was being broken to pieces, and then rip out another chunk of the frozen stuff. All this was done to the accompaniment of grinding, rending blasts of the tortured ice. No wonder those tools were heavy and well braced. Even at that, it was a marvel they could stand the strain.

You went back and reassembled your train and here was Gil Lathrop, your fellow brakeman, ready to take the head end and let you go back to the crummy. Night had fallen and you were well content to retire to the end where there wasn't much to do but ride.

Thus went the hours. Twice you put the coal car in some siding, backed the engines alongside while the section men coaled up. You were off the track time and again, the flanger was used several more times that night and the following day. You were thoroughly educated in the gentle art of "snow bucking" when you arrived at Midway and tied up, with the road open for traffic and forty-two hours on duty to your credit. Yes, it *was* a damn cold, disagreeable, dangerous job; but looking back, you wouldn't have missed the experience for anything.

Scratch your head*
and if you find . . .
You've got dandruff
on your mind . . .

*THE FAMOUS FINGER-NAIL (F-N) TEST


GET WILDROOT CREAM-OIL
GROOMS THE HAIR — RELIEVES DRYNESS
REMOVES LOOSE DANDRUFF

Photo by Linwood W. Moody, Union, Maine

FROM MEMORY'S ALBUM. The SR&RL 10-spot takes a ride on the "armstrong" table in Phillips, Maine, at ten below zero. Such photos can never be taken again, for the Sandy River & Rangeley Lakes, once America's longest two-foot-gage system, was abandoned nearly ten years ago

On the Spot

YES, *Railroad Magazine* gets around. Assurance of this fact comes from Linwood Skellenger, 7648 S. Tacoma Way, Tacoma, 9, Wash., who says he has bought copies in the Philippines, Alaska, Panama, Canal Zone and Porto Rico, as well as the good old U.S.A.

"On my last trip to sea," he writes, "I was gone for six months, with no chance to buy any American periodical; and it took me almost a year to pick up in second-hand shops the back copies of *Railroad Magazine* I had missed. Two years ago I was in Newport, England, loading for North Africa, which I eventually reached just 31 days before D-day. Upon arriving in Africa I still had a copy of *Railroad Magazine* with me, when a soldier came aboard to beg for 'any kind of reading matter, no matter how old it is.' The boy had come off the Philadelphia-Washington Division of the Pennsy. He almost cried when I gave him that tattered copy of *Railroad Magazine.*"

We now listen to Gnr. Lawrence Brown, 1132534, 445th Field Battery, 65th Field Regt., Royal Artillery, C.M. Forces, who wants to thank all readers who responded to his plea *(June '44)* for copies of *Railroad Magazine* for service men. He received quite a number of magazines, which he promptly sent to fighting men in various parts of the world.

"In addition to *Railroad Magazine,*" he states, "I received some issues of *Trains, Locomotive Engineers Journal* and one of *Rio Grande Green Light,* also a copy of the book, *Clear the Tracks!,* an engineer's biography written by Joseph Bromley. If readers care to send me additional rail publications I will see that they are shipped at once to soldiers who are starved for such reading matter."

An urgent request of like nature comes from Pfc. John Wagner, 12072153, Co. C, 87th, APO 345 Mt. Infantry, Camp Swift, Texas: "Anyone who can spare old copies of *Railroad Magazine,* in any condition, please send them for distribution among the boys in my outfit. We sure can use them."

In the same mail which brought the above request, we learn from E. S. Dellinger, favorite rail-fiction author of thousands of railroad men, that his only son,

Dale, has just been killed in aviation service overseas. Our heart goes out to Mr. Dellinger and to all others who have gold stars on the service flags in their windows. May faith give them courage to carry on in spite of adversity!

Dale used to get a big kick out of seeing his dad's stories in print. Countless other service men still enjoy these stories—when they can get them. It would seem to be a fitting tribute to the memory of Dale Dellinger that each reader on the home front send an old issue of *Railroad Magazine* containing one of his father's stories to someone in the armed forces.

* * *

VERACITY of Major F H. Winget is challenged in a letter from a group of fellows in a Railway Operating Battalion stationed in India, signed by "The Anti-Liars' Club" of that unit. Major Winget is furloughed general foreman of the NYC Shelby St. enginehouse, Indianapolis, now with a Railway Operating Battalion overseas. According to his story *(Sept. '44)*, an elephant in a car just behind the tender caused engine failure on a moving train on the Bengal & Assam Ry. in India by opening the manhole cover, dipping his trunk into the tank, drinking his fill, and then spraying himself and the right-of-way with water that should have gone into the boiler.

The boys write: "When we see our favorite publication fall victim to bum information, supposedly true, we feel it is time to show you the light. We are all familiar with the Bengal-Assam line and its rolling stock, and are somewhat acquainted with the dimensions of the average elephant. Maybe Major Winget could explain how the said pachyderm accomplished this feat, which we feel is an impossibility, due to the construction of tenders and the long extended hook couplings used here. How about it, Major?"

Maybe the Anti-Liars' Club also will question a certain item from the *Milwaukee Magazine* which tells of a Barnum & Bailey elephant named *Jumbo* picking up a train order. Marc Green, editor of that publication, swears it really happened. Marc says a circus train was proceeding over the CMStP&P enroute from Milwaukee, Wis., to Davenport, Ia., and arrived at Davis, Ill. last September 11th. There they found flimsies out on the train-order stand awaiting the crew.

"As the locomotive rolled by," Marc goes on, "the engineer reached out, slipped his arm through the fork and pulled in his copy, leaving one for the conductor. But *Jumbo*, peeping out of his car back in the middle of the train, had seen what the engineer did and apparently decided to try it himself. As he approached the stand, he popped his long trunk through the loop. Then he pulled his copy in. Luckily, Operator R. V. Stickler saw the show and, grabbing the triplicate copy, set it up in time for the conductor to take it as the caboose went by.

* * *

MEMORIES of long ago were recalled to F. D. Hayes, a retired conductor, RFD 1, Purdy, Mo., by Watson B. Berry's article, "Shaughnessy's Special" *(Dec. '44)*. Mr. Hayes was born at Punxsutawney, Pa., to which that special was sent. In 1896, at the time it was loaded, he lived at Reynoldsville, fourteen miles away, and was employed as brakeman on the Reynoldsville & Falls Creek (now B&O), a small coal road which worked three crews in daytime, one at night. Hayes writes:

"While reading Berry's article I wondered why such an aggregation of steam shovels, etc., had been sent to a little hill town. Then I remembered that the Buffalo, Rochester & Pittsburgh (now B&O) was then starting to build to Butler, Pa., sixty miles south, for a B&O connection and outlet to New Castle and Pittsburgh. After Shaughnessy's job was completed and trains had begun running, I hired out at Butler, and worked there several years as conductor. Later I came West, retiring in 1937 after thirty years on the MoP."

* * *

LUCIUS BEEBE, author of two railroad books and a *N. Y. Herald Tribune* columnist, quotes, "I opened the en-

velope and out dropped two $25 gold pieces," from Henry Morgan's true tale, "Caught on the Run," in our January issue. Beebe adds: "As the merest amateur in the history of U.S. numismatics, I would be interested to learn more about these '$25 gold pieces.' Gold has been minted in two- and four-bit pieces, dollars, $2.50, $3, $4, $5, $10, $20 and $50; but I have yet to hear—outside of *Railroad Magazine*—of the quarter-century coin."

* * *

MANIA for single-driver engines in late 1840s ended chiefly in failure, according to Thomas Norwell, Silver Spring, Md., who says Wilson Eddy's *Addison Gilmore (page 109, November)*, constructed in 1851, was rebuilt; then she became predecessor of a long line known, because of their punctuality, as *Eddy Clocks.*

"Wilson Eddy," he writes, "received his early education at the machine shop of the Proprietors of the Locks and Canals, Lowell, Mass. Their locomotives were patterned on George Stephenson's *Planet.* In 1840, Eddy took charge of the Springfield shop of the Western Railroad. Characteristic of his famous Clocks were twin steam escape columns, traceable to the first engines landed in America. Curiously shaped spokes of the driving wheels of the *Addison Gilmore* appear on other engines."

Derailed narrow-gage engine shown in "Along the Iron Pike" *(Dec. '44)* was Bridgton & Harrison No. 7, according to Frank Van Wormer Walsh, Jr., 1703 Well Drive, Fair Lawn, N. J. The 2-4-4 T Baldwin turned on her side at Buttermilk, Maine. Present owner, Ellis Atwood of South Carver, Mass., plans to use her in his cranberry bog after the war.

Condemned New Haven Mogul No. 335 *(Nov. issue, page 113)* has been retrieved from the junk yard. Clinton E. Appleby, 65 Arnold Rd., North Attleboro, Mass., states that since October, NH has operated Moguls from Providence enginehouse for switching and work trains, and on branches where no modern power but Diesels can run because of clearance.

Query on the fate of Kiskaguillas Valley ten-wheeler No. 6 *(pictured in Jan.)* brought a reply from Harkin Williams, Birmingham Rail & Locomotive Co., Birmingham, Ala. This firm bought her after the KV had been abandoned. Then in December '40 they sold her to the South Georgia Railroad at Quitman, Ga., where she now runs.

* * *

BILL KNAPKE'S story about the trainman losing his teeth on the Espee many years ago was repeated last

THE SP 2362 hauled Roosevelt's special train from Yuma, Ariz., to San Diego, Calif. (See Bedwell item on next page). Photo was snapped last July 20th, at San Diego union station by Marion Charles, 379 Bonair St., La Jolla, Calif.

October second when R. H. Stevens, a Santa Fe brakeman on Second 780, sent this telegram to the operator at Tipton, Calif.:

"Please have section foreman Tipton look for upper plate false teeth dropped about one or two poles west of yard limit board east of Tulare east yard."

Will H. Locke of Pixley, Calif., author of the true tale "Freight Racketeers" *(Jan. issue)*, who sent us this item, said the brakeman dropped his denture while sprinting to catch the crummy after closing the switch to let a long drag of reefers out of the Tipton siding.

"In some manner," Will relates, "his false teeth flew out of his mouth and landed in sagebrush on the right-of-way. The poor shack caught his car all right, but had to gum-chew his meals for some time until the gandy dancers could return the plate to him."

* * *

OLD DEPOT at Oskaloosa, Iowa, abandoned by CB&Q in 1935 and now used as a printing shop, pictured by Joe Easley in *Along the Iron Pike (Sept. '44)*, is not the only former railroad station in which a newspaper is published. John Rehor, 20931 Morewood Parkway, Rocky River 16, Ohio, reports that a similar oddity may be found on the 7-mile Lakeside & Marblehead RR. The L&M discontinued passenger service in 1931. Its old passenger station at Lakeside, O., was taken over by the Peninsula Printing Co., which puts out newspapers for the towns of Lakeside and Marblehead.

The same issue of *Along the Iron Pike* depicted a curious-looking yard goat with portholes on the Washington & Old Dominion RR. Commenting on this, John says that the L&M has an old McKeen motor, No. 5, a *de luxe* parlor car, with porthole windows. This vehicle, painted maroon, used to be the L&M's main passenger car but is now in storage. John volunteers to give additional facts on the L&M to anyone who'll send him a stamped, addressed envelope.

HARRY BEDWELL has just written another *Eddie Sand* story, a two-part serial which we will publish very soon. In view of the fact that *Eddie Sand*, like his creator, is a brass pounder and train dispatcher, while Bedwell himself has a rare knack of writing, it is not hard to understand why *Eddie Sand* has become widely regarded as rail-fiction's most popular character.

Harry Bedwell

"Desert Operator" is being illustrated by Harry C. Temple of Woodstock, N.Y. Being a former Nickel Plate op as well as an artist, Harry is qualified to put the authentic feeling into this job. His *Back in the Days*, a series of pictures of old-time rails at work, is known and enjoyed from Key West to Dawson City.

Last November, you may recall, we printed the wording of two train orders covering the movement of a special which carried President Roosevelt through the Southeast and into and out of Mexico. These we received from Bedwell, whose present address is c/o Southern Pacific Co., Box 502, Fontana, Calif.

"Since then," he writes, "I have been deluged with requests for copies of those orders. Luckily, I saved the bunch that was left on the telegraph table at Yuma, Ariz., after the special had gone, and was able to send along these carbon copies of the original to fill the requests. Surprising to me, about half of the appeals came from men in military service. Others were from old rails who had turned collectors.

"McClements, who copied the orders, is an old INS press operator, and he compiled a big book of them, as those press ops do. Through a trick known to his trade, Mac made clear copies down to the last one. And, by the way, they were copied from Morse, for the reason that the Inter-California, the Espee's Imperial Valley and the San Diego & Arizona Eastern all use Morse for train orders.

Photo from Charles E. Fisher, pres., Railway & Locomotive Historical Society

HOUSING steam and sand domes together is no new designing wrinkle, as illustrated by this print of the PRR's 937, a D-166 class engine, Juniata-built in 1906

YOUNGEST RAILROADER? A claim worth considering comes from Pvt. Joseph L. Nolan, ASN 35695368, 243rd AAF, BU-OTU-VH, Section A, Army Air Field, Great Bend, Kansas. This "GI Joe" is a brakeman-switchman on an Army-operated 4½-mlie stretch of railway belonging to the Santa Fe's Newton Division.

"I started railroading at age nine," he says, "but not on a company payroll. I worked for my dad, who is employed by the Illinois Central, Louisville, Ky., and got the numbers off passenger cars that came into the station at 7th and Water Streets. I also threw switches and handled other jobs. Dad and I helped to battle the 1931 flood, which tied up traffic for three weeks. We stayed on duty until the rising water covered our hip boots and threatened to sweep us into the canal. When I was 18 I began railroading on my own, and in 1942 joined the Air Corps. Am now working on the gasoline-powered USA 7631 at our base."

Candidate for the title of youngest agent-telegrapher in the nation is 16-year-old Owen B. Adams of Eoline, Ala. He mans this small station on the Gulf, Mobile & Ohio, which had been left vacant by manpower shortage. The post has a singular advantage. When in doubt, Owen can tap out an SOS to his father, Agent W. L. Adams, further down the pike at Reform, Ala.

* * *

SILENT SLIM'S true tale, "Brass Hat and Burro" *(Dec. '44)*, mentions J. F. Sugrue, a Rock Island division Superintendent. We learn from Glenn C. Libby, Santa Fe agent at Pitkin, La., who knew him well, that Mr. Sugrue later became Superintendent of the Southern Pacific's De-Ridder branch and of a Long-Bell lumber road, had a Santa Fe station named for him (Sugrue, La.), and died recently at Ridder, La.

* * *

INTERNATIONAL scope of railroading was noted the other day by Russell Stokes, 106 Bank Ave., Mt. Holly, N. J.,

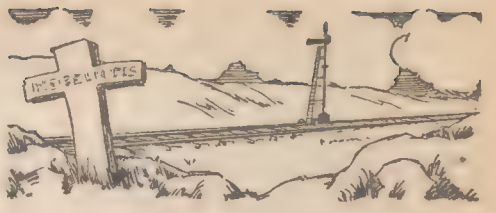
when he saw the following boxcars together on the same siding at G.L.F. Mills in his home town: CNR 481649, Rock Island 147239, and Nacionales de Mexico 62383, the last-named being loaded with soybean meal from a point near Buffalo, N.Y. The first and third of these roads are government systems; the second is privately owned.

* * *

TRACKSIDE graves described in Stuart Covington's "Rebel Route" *(Jan. issue)* remind L. C. Hoffman, retired rail of 176 E. Wisconsin Ave., Room 601, Milwaukee 3, Wis., of the tomb located on the right-of-way of the old Milwaukee & Mississippi (now Milwaukee Road) near the depot and within a few feet of the passing track at North Prairie, Wis., 31 miles southwest of Milwaukee. This tumulus, according to Mr. Hoffman, is the last resting place of one of the road's first conductors, who died in the late 1850s. The grave is fenced in. Rising above it is a marble monument sculptured with an old-time passenger coach.

"Who can tell me the history of this landmark?" our correspondent asks. "Why was the conductor buried within sound of the trains that thunder by, almost over his head? Perhaps he dearly loved the railroad."

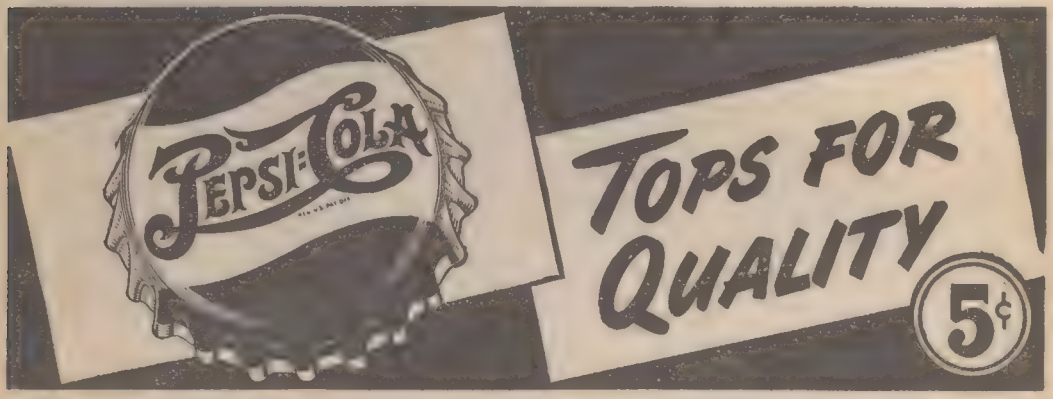
He probably did. Incidentally, trackside graves are scattered all over U.S. and Canada. We have published facts about many of them—with a few pictures—in various issues of the magazine for the past 14 years, the latest being a mention of Rebecca Winters' tomb on CB&Q property on the old Mormon Trail, in "Brigham Young's Road" *(Feb. issue)*.



* * *

ABANDONMENT of the old narrow-gage Silverton Northern some time ago has left hardly a trace at Silverton, Colo., writes Cpl. J. Arthur Stitzel, Hq. Det., 740th M.P. Bn., Camp Skokie Valley, Glenview, Ill., adding that all rails have been removed, as has the 4-spot from the weather-battered enginehouse. Only rotting ties and grass-covered grades remain to mark the once prosperous pike. The corporal visited the place recently when making a 3300-mile fantrip over the "Grand Circle" of the Denver & Rio Grande Western while on a furlough.

He took the same trip back in 1942, but things are no longer the same. For instance, a gap in the circle must now be covered by a highway vehicle. As the Rio



CORNFIELD MEET. Cars were strewn around switch at Missouri Valley, Iowa, last September 28th when C&NW passenger and freight trains came together. Who can supply details?

Grande Southern no longer has "Goose" service between Dolores and Durango, this portion of the journey may be made in the Government mail truck.

* * *

"COLORED brakemen are rare outside of the South and the New York City subway-elevated lines, as stated in the January issue," reports Frank L. Walter, Bob 424, Preston, Minn., "but I know that two of them, Bill Gladney and Mr. Trent, have worked for years in freight service on the East Iowa Division of the Rock Island between Silvis, Ill., and Des Moines, Iowa. I am personally acquainted with many trainmen on that division and have yet to hear a disparaging remark about either man."

* * *

WALTER KOHL'S "Trails and Rails in Death Valley" *(Dec. 44)* drew a heavy response from readers. J. M. Grigg, 5951 S. Tripp Ave., Chicago, says the article has a particular appeal for him because he and Kohl "started life down on the Jack Line of the CB&Q in Illinois."

F. G. Gurley, President of the Santa Fe, was delighted with that feature. "It is, indeed, an interesting account of early transportation in Death Valley," he writes, "and makes one realize that, although the early days were packed with romance and adventure, even the railroaders of those times had their share of troubles without such modern things as wartime responsibilities, anti-trust suits, etc."

E. E. McCarty, Santa Fe General Manager, also found Kohl's account highly readable and adds he is keeping that issue of *Railroad Magazine* in his personal library. Another Santa Fe man, James C. Love, 1638 Cimarron, Los Angeles, Calif., who retired as Road Foreman of Engines in 1939 after nearly 44 years of service on that system and was later called back to the same job on account of war emergency, also puts in a good word for the "Death Valley" story, and recalls the time

While Supply Lasts!

The CAMERA BARGAIN of a Lifetime!

Now Only $3.98 CARRYING CASE FREE!

The Ideal Gift for Mother, Dad, Sis or Brother

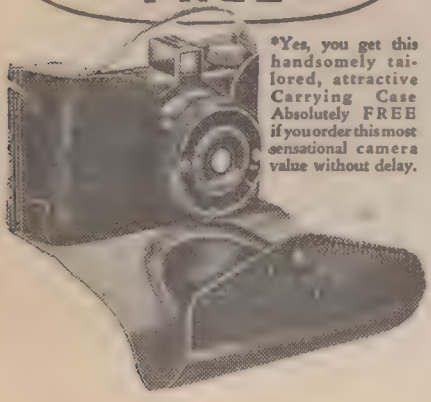
★

Sold On Money-Back "No Risk" Guarantee of Satisfaction

LOOK *At These Features*

- ★ Takes Excellent Full Color Pictures Indoors or Outdoors
- ★ Genuine Graf Lens
- ★ Extremely Simple To Operate
- ★ Level View Finder
- ★ Takes 16 Pictures On Any Standard Number 127 Film
- ★ Fine Quality Precision Construction

This Handsome **CARRYING CASE** ***FREE**



*Yes, you get this handsomely tailored, attractive Carrying Case Absolutely FREE if you order this most sensational camera value without delay.

DON'T PASS UP THIS SENSATIONAL SCOOP VALUE!

Imagine getting a genuine Carlton Candid Camera for only $3.98 in the face of one of the most drastic camera shortages in our nation's history! And please don't let our low close-out price lead you to believe that this is "just another cheap camera." To the contrary, it's a precision made instrument created by one of the largest camera manufacturers in the world. Yes our Carlton Candid Camera looks, acts and performs like many cameras costing as high as ten dollars in peace time, and possesses many features you have to see to appreciate. We absolutely guarantee the Carlton to take beautiful, clear, sharp pictures in either color or black and white — pictures that will thrill you or your money back. All we ask is that you act quickly because the quantity is limited and it's "first come—first served." So order at once and avoid disappointment later. DO IT NOW AND GET HANDSOME CARRYING CASE FREE!

SEND NO MONEY—RUSH COUPON TODAY

NATIONAL NOVELTIES—Dept. CL1
608 So. Dearborn St.—Chicago 5, Ill.

Please send me a genuine Carlton Candid Camera and Free Carrying Case—all for only $3.98

CHECK ONE

☐ Send C.O.D.—I will pay Postman $3.98 plus postage.

☐ Enclosed find $3.98 in full payment postpaid.

Name_____
Please Print Clearly

Address_____

City_____ State_____

when he fired the first oil-burning locomotive in the country. We have asked Mr. Love for details on the latter incident.

Among other officials who commented favorably on "Death Valley" are D. J. Russell, Vice President of the Espee; A. T. Mercier, President, and Paul Shoup, former President, of the same system; William Ham, Espee Foreman of Engines at Colton, Calif., for 40 years; O. A. Smith, ex-President, Pacific Electric; and D. W. Pontius, ex-Chairman of Board, Pacific Electric.

* * *

LOST AND FOUND. Just before departure of *The Ambassador* train from the Canadian National central station at Montreal one morning recently, the Central Vermont conductor, W. E. Muldoon, found a ticket on the platform. As he did not have time to turn it in to the lost and found bureau, he decided to wait and see if any of his passengers would be on the train without a ticket. It was not long after he started to collect fares that he came across a young man frantically searching his pockets.

"Do you happen to be going to St. Johns?" the conductor asked.

In a tone of astonishment, the reply came: "How did you know?"

The con handed him the ticket.

* * *

FOX CHASE. Last December we printed an item from Alaska about a bull moose that slowed down both a rotary plow and a freight train by trotting ahead leisurely on the track. Reading that account prompted Clarence M. Fink, 227 N. Mentor Ave., Pasadena, Calif., to relate a somewhat similar incident, this one involving a silver fox. Here it is:

Reynard, or whatever his name was, evidently had been pursued but had shaken the pursuer off his trail. At any rate, he was worn out. The engineer of a logging train saw the creature loping ahead of him in the big timber country near Wilmuth Falls, Wash. The animal's pace slackened and his tail began to drag, a sure sign of exhaustion. Moved to pity, the engineer stopped his train, walked ahead, picked up the fox, which did not try to escape, and placed the tired little beast safely in the brush beside the track. Then he got back into the cab and reopened the throttle. Later he learned that the silver fox had escaped from a fur farm and was valued at $1200.

* * *

A DIESEL SCHOOL is being conducted by the Military Railway Service at Lowry Field, just outside of Denver, Colo., in charge of Captain E. J. Brown, formerly with Alco, who spent two years with the British 8th Army in Africa. We are informed that this school normally has from 16 to 24 men in it, 8 to each class. The fellows come from all over the United States, most of them being firemen or Diesel mechanics. They attend classes for two hours every morning, then go to the Union Pacific streamline shop in Denver or to the D&RGW shops for practical experience. Among the graduates is a former B&O fireman from Venice, Ill., who sent us the information. He is Pvt. Don A. DuBois, 36980195, ASF, Personnel Replacement Depot, Camp Reynolds, Greenville, Pa.

* * *

WORKING in the Santa Fe's Diesel shop at Chicago during his school vacation last summer, Wallace Abbey, 2417 Harrison St., Evanston, Ill., had the time of his life. We quote from his letter:

"I saw many interesting sights, such as the *Super Chief* pulling in nearly six hours late, due to engine failure. When she arrived, she had the 1, 2-A, 13 and 14 on the head end, with the 1 and 2-A doing the work and the other two, back to back, just drifting. It gave us a good laugh.

"One evening, in the roundhouse, I found the 1431 sitting on the lead track. This engine, rebuilt from an old balanced compound Atlantic, is a rare type on the Illinois Division, where the standard passenger power is a 3400 class Pacific or a

J. E. SMITH, President, National Radio Institute

Our 31st Year of Training Men for Success in Radio

I WILL SEND A SAMPLE LESSON FREE to PROVE I can Train You at Home in Spare Time to BE A RADIO TECHNICIAN

You May Never See a Better Time to Get Started in Radio

I will send you FREE, my Lesson, "Getting Acquainted with Receiver Servicing," to show you how practical it is to learn Radio at home in spare time. It's a valuable Lesson. Study it—keep it—use it—without obligation! And with this Lesson I'll send my 64-page, illustrated book, "Win Rich Rewards in Radio" FREE. It describes many fascinating jobs Radio offers, tells how N.R.I. gives you Radio experience by practicing with SIX BIG KITS OF RADIO PARTS I send!

I Trained These Men

$35 to $45 a Week In Own Shop

"Previous to enrolling for your radio training I made $12 per week in a hardware store. Now I operate my own repair shop, and often clear $35 to $45 a week." —FREDERICK BELL, 76 Golf Ave., St. Johns, Newfoundland.

$600 a Year in Spare Time

"At present I am doing sparetime radio work. I earned money in radio before graduating. My profits for the last twelve months were $600." — ERWIN F. BOETTCHER, Marinette, Wis.

Chief Engineer in Radio Station

"When I signed up with N.R.I. I had no other Radio experience. I am now Chief Engineer for Station WIBG, and have supervised installation of new modern broadcasting studios and equipment."—JOHN H. HENNINGER, 4744 Meridian Street, Philadelphia, Pa.

Many Opportunities Ahead for Trained Radio Technicians and Operators

The future looks bright for well-trained Radio Technicians, Operators. Keeping old Radios working is booming the Radio repair business. Profits are large—and peacetime prospects are bright, too. Think of the new boom in Radio Sales and Servicing that's coming—when new Radios are again available—when Frequency Modulation and Electronics can be promoted—when Television moves into its new era of expansion.

Broadcasting Stations, Aviation Radio, Police Radio, Loudspeaker Systems, Radio Manufacturing all employ qualified Radio Men at good pay—and most of these fields have a big backlog of business built up during the war, plus opportunities to expand into new fields opened by wartime developments. You may never again see a time when it will be so easy to get a start in Radio!

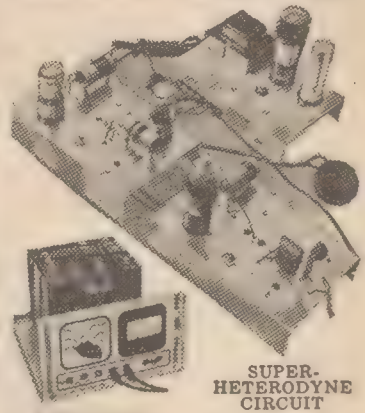
Many Beginners Soon Make $5, $10 a Week EXTRA in Spare Time

The day you enroll for my Course I start sending you EXTRA MONEY JOB SHEETS that help show how to make EXTRA money fixing Radios in spare time while still learning. I send you SIX big kits of Radio parts as part of my Course. You LEARN Radio fundamentals from my illustrated, easy-to-grasp lessons—PRACTICE what you learn by building real Radio Circuits—and use your knowledge to make EXTRA money!

Mail Coupon for FREE Lesson and Book

These are fast-moving times. The opportunities beginners now have to get started in Radio may never be repeated. So take the first step at once. Get my sample Lesson and 64-page illustrated book FREE. No obligation—no salesman will call. Just mail Coupon in an envelope or pasted on a penny postal.—J. E. SMITH, President, Dept. 5CS9, National Radio Institute, Washington 9, D. C.

You Build These and Many Other Radio Circuits with Kits I Supply



MEASURING INSTRUMENT

(above) you build early in Course. Vacuum tube multimeter, measures A.C., D.C., R.F volts, D.C. currents, resistance, receiver output.

SUPER-HETERODYNE CIRCUIT

(above) Preselector, oscillator - mixer-first detector, i.f. stage, diode - detector - a.v.c. stage, audio stage. Brings in local and distant stations.

A. M. SIGNAL GENERATOR

(left) build it yourself. Provides amplitude - modulated signals for test and experimental purposes.

TELEVISION
ELECTRONICS
FREQUENCY MODULATION

My up-to-date Course includes training in these new developments.

GOOD FOR BOTH 64 PAGE BOOK and SAMPLE LESSON FREE

J. E. SMITH, President, Dept. 5CS9
National Radio Institute, Washington 9, D. C.

Mail me FREE, without obligation, Sample Lesson and 64-page book, "Win Rich Rewards in Radio." (No salesman will call. Please write plainly.)

Name ..... Age .....

Address .....

City ..... Zone.... State.... 4FR

3460 class 4-6-4. Later that night this old girl and the 3413 doubleheaded a 15-car troop train. A few days afterward, the 1431 returned with another train, doubleheading with Pacific 1349, also a rare type of engine on this division."

* * *

PAUL McGUIRE'S "Track Machines" *(Dec. '44)* has drawn some fire. Hugh F. O'Neil, 2435 Monroe Blvd., Ogden, Utah, calls it "an unfair appraisal of the value of track machinery."

"For a year or so I worked on the Southern Pacific as an extra-gang timekeeper," he writes, "and I know that with the modern machinery used on that road, 30 men with mechanical adzers, tie-tampers, spike-removers, burrow cranes and other devices for modern track-laying could—and did—exceed the amount of work done by 90 men without such equipment."

"Of course," he warns, "foremen must understand the machines if their operation is to be successful. Take, for example, that boon to maintenance men known as the gasoline motor-car. This is probably the most dangerous piece of track equipment in use today—not because of any inherent defect in the machine, but because many employes operate rail motor-cars in constant violation of company rules, especially speed regulations. I have seen these cars run up to speeds of 60 mph, when the usual limit—at least on the SP—is 20 mph."

Hugh points out that unless track machines are handled by persons familiar with them and according to safety rules, "they are a menace to life and property and a direct loss as labor-savers, while the finished product shows poor workmanship."

We have also received many favorable comments on McGuire's article. A foreman and machine operator writes:

"I agree with that author 150 per cent. 'Track Machines' is instructive and to the point. I showed it to my Supervisor and he says it is the best ever. We have all the machines McGuire mentions, some good, some indifferent, and some worthless. Any boss who rashly speaks out against any of these metal monstrosities is promptly squelched. What is bought has to be used. These officials will try anything once and then buy a lot of them without asking us fellows how we get along with them."

This was penned by a Bridge & Building carpenter: "Your story about power tools is true to life and hard old experience. We got a new power saw a short time ago and threw our cross-cuts away. We gave the power saw a good try, but now we are hunting up the old pull-and pushers and getting them back in shape."

And a General Track Supervisor remarks: "The trouble with track machines is poor maintenance. As someone has said, 'These new-fangled gadgets are too complicated for most of you Irish and all of us Swedes.' With the kind of switch-onners and offers we have had the past season, anything could happen and it usually did. If I could just find one with enough gumption to pour a gallon of oil on the crank case before the rods went out the exhaust, I'd be thankful."

* * *

COINCIDENCES. As a sequel to our recently printed item about two passenger cars on the Santa Fe's *Chief* having the same name, *Moencopi,* we learn from Andrew R. Harrison, Union Pacific depot passenger agent at the Los Angeles Union Station, that Southern Pacific train No. 55, the *Tehachapi,* left Los Angeles at 8:25 p.m. last June 23rd enroute for Oakland, Calif., with two adjoining coaches having the identical number, Rock Island 2916 and SP 2916.

We now hear from A. D. Fowlkes of Tarboro, N. C.: "Recently I was riding Southern Railway train No. 47, with dining-car *Virginia* and buffet-car *Louisiana,* when I saw another train at Birmingham, Ala.—Southern No. 48—which had corresponding cars of the same name but different numbers."

FREE

THIS AMAZING NEW BOOK FOR

7 DAY TRIAL!

HOW TO MAKE AND FIX THINGS FOR YOUR HOME!

NOW — IT'S EASY! BIG, NEW COMPLETE GUIDE HAS EVERYTHING BEGINNER OR EXPERT NEEDS TO KNOW!

Now you can make the things you've wanted . . . do the repairing and redecorating that needs doing—and have fun, too! For here is "It's Fun To Make It Yourself," an amazing new guide that simplifies every step in wood and metal working . . . shows you short-cuts that save time, money, labor. See how easily you can follow the amazingly simple picture-instructions. Mail coupon now for 7-Day FREE examination. Send no money!

Simplified, Step-by-Step Methods of One of America's Leading Authorities

Here's How to Beat High Prices, Scarcities!

Even if you've never handled tools in your life—you can follow the simplified picture-direction in this new kind of book. So easy you can't possibly go wrong . . . thanks to its easy-to-understand, non-technical language and over 1000 helpful pictures!

Imagine saving $10 to $50 by making a nest of tables yourself. Or framing your own pictures. Imagine repairing and renewing old furniture—at practically no cost. Or adding a handsome rustic bench to your garden. Just one article you make—or one repair job you do—with the help of this book can easily save you many times the cost of the entire volume. So mail coupon now for your FREE examination. No Obligation!

IT'S FUN to make a collapsible bed tray, scores of other things.

384 BIG PAGES—COMPLETE INDEX

1000 PHOTOS AND DIAGRAMS MAKE EVERY STEP AS EASY AS A-B-C!

Household Utility Items—Make ironing boards, step-ladders, kitchen tables, workstands, clothes driers, utility cabinets, etc.

For Garden — Make a 2-light garden frame for plants — or beautify with rustic seats and benches, rose pergolas, bird feeding tables, even complete greenhouse, etc.

New Rooms For Old—Add new life to old rooms! Imagine the difference a new combination book case and cabinet, a nest of tables, or new wall paper would make!

Things Decorative, Useful—Have fun making book-ends, coffee tables, hearth rails, etc. You'll get real pleasure in seeing them finished in your home.

Nursery Needs—Make hard-to-get things like a baby's folding crib, medicine cabinets, work stands, lamps, cake tins, ash trays, etc.

Look at this Partial List of Things You Can Make and Do!

MAKING
—Nest of Tables
—Medicine Cabinet
—Combined Cabinet and Bookshelves
—Fire Screen
—Double Stepladder
—Deck Chair
—Table Lamp
—China Cabinet
—Modern Sideboard
—a Burglar-proof Hinge
—a Shelf Bracket
—Objects of Metal
—Rustic Garden Bench
—Rose Pergola
—Greenhouse
Furniture Repairs
Panelling a Room
Replacing Sash Cords
Lifting Flooring
Draught Prevention
Picture Framing
Glass Cutting
Fitting & Replacing Window Panes
Fitting Hinges
Fitting Shelves
Converting Spare Room into Workshop
Using Garage as Workshop
Choice and Care of Tools
Wax Polishing, Fuming, etc.
Choice of a Lathe
Sheet-Tin Work
Bent Wire Work
Etching on Brass, Copper and Steel
Paperhanging
Interior Painting
Graining

And many other things you'll have FUN making and doing with help of this new book!

Examine 7 Days FREE!

Send No Money! Mail Coupon NOW!

There never has been a book like "It's Fun To Make It Yourself." 384 BIG pages, over 1000 photographs, working diagrams, sketches —all the facts you should know about building and equipping your home workshop; selecting, manipulating, sharpening, caring for your tools; joints, jointing; finishing woodwork; wood turning; wood, metal construction projects; how to do home repairs, maintenance; fundamentals of house-painting; plastering, paperhanging; big section of things to make for garden.

MAIL COUPON NOW!

Once you go through this practical guide you wouldn't give it up for many times its small price. Let us send "It's Fun To Make It Yourself" for one week's free examination. Then, if you're delighted with it (as we're sure you will be) send only $1—and one month later pay small balance of only $1.95 (plus few cents postage).

If, for any reason, you decide not to keep book, return it and owe nothing. You have everything to gain, nothing to lose, by mailing FREE Examination Coupon NOW to Book Presentations, 31 West 57th Street, New York 19, New York.

MAIL FREE EXAMINATION COUPON TODAY!

FREE EXAMINATION COUPON

BOOK PRESENTATIONS
31 W. 57th Street, New York 19, N. Y. PP3

Without obligation, send me immediately (prepaid for a week's free examination), IT'S FUN TO MAKE IT YOURSELF, 384 pages, over 2000 How-To-Do-It Illustrations, indexed, handsome cloth binding. At end of week I will return book and owe nothing. Or I will keep it and send $1 then; and $1.95 one month later (plus a few cents postage charges).

☐ Check here if you desire beautiful De-Luxe Edition bound in special-finish Simulated Leather — gorgeously grained, stamped in genuine gilt. Only $1 extra.

NAME .....
(Please Print Plainly)

ADDRESS .....

CITY ..... STATE .....
(Please List Zone Number — if any)

☐ CHECK HERE AND SAVE MORE. SHIPPING WEIGHT 3 lbs. Send full cash with this coupon and we will stand shipping costs. Same return privileges!

Photo by F. H. Sutton, 1517 Grant St., Omaha, Nebr.

BUSY as a flea circus. Omaha line's eight-wheeler 160 gets a tank full of water and a shot of oil, while a station agent heaves mail sacks into the combine behind her

The other day Fowlkes was traveling on Atlantic Coast Line train No. 49, whose consist included coaches 1019 and 1020 in that order, and locomotive 1627. While it was waiting, another came up, No. 89, pulled by engine 1628.

At a later date train 49 had engine 1671, and train 89 had the 1672. On that same day Fowlkes also saw ACL train 80 with consecutively-numbered coaches 1111 and 1112; and, within a period of thirty minutes, he spotted two Alton boxcars numbered 17542 and 17543. Altogether, it was quite a field day, numerically.

* * *

FINALLY we come to the song and dance about the Reader's Choice coupon *(page 145)*. The purpose of this is to guide the editorial crew in selecting material for future issues. Some rails and fans use the coupon. Others prefer not to clip the magazine; they send us home-made coupons or express their choice in letters and postcards. Regardless of how votes are sent in, all count the same. Results of balloting on our January issue show the following titles listed in order of popularity:

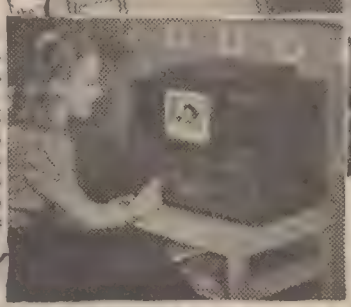
1. True Tales of the Rails
2. Rebel Route, *Covington*
3. Night Run, *Johns*
4. On the Spot
5. Electric Lines, *Maguire*
6. Light of the Lantern
7. Conductorette, *Rohde*
8. Italian Railways, *Pennoyer*
9. Railroad Camera Club
10. Along the Iron Pike, *Easley*
11. Magazine Index for 1944
12. Phoebe Snow

PHOTOS on pages 18-19, 41 and 102 are tied for first place in January popularity list, with 36-37, 44, 45, 64 and 132 as runners-up.

GET INTO RADIO ELECTRONICS & TELEVISION NOW!

Hundreds of Industries Need Radio and Television Men Now and for Great Future Demands

The man trained in electronics is wanted not only in Radio and Television but in Aviation, Transportation, Communications, . . . in the designing, engineering and operation of hundreds of industries today and for years to come. Learn how great the field is for YOU. How you may GET INTO BUSINESS FOR YOURSELF. Mail the coupon now.



Send for FREE Lesson and Prove to Yourself How Quick and Easy You Get Ahead in Radio by the NEW

SHOP METHOD HOME TRAINING

Learn by Doing!

Use real Radio Equipment Furnished with your Course

Experience is the best teacher. You learn by experience with the exclusive National Shop-Method of Home Training — actually build many circuits and do experiments with the big kits of standard radio parts included in your training equipment at no extra cost to you.

Build a superheterodyne receiver. Make tests and conduct experiments that show you the why and how of electronics. Build an audio oscillator, signal generators and other instruments with the parts and supplies included in your course.

"F.M." Means Future Money

Frequency Modulation (F.M.) is here to stay. Thousands of F. M. licenses have been granted by the government F. C. C. all over the country. Learn to you.

Get ready for TELEVISION. Get your share of the RADIO SERVICE Business. Here is a sensationally improved way for you to get the right training—a thoroughly proved system whereby you study in spare time—odd hours, even minutes—and have the advantage of actual shop experience behind you.

This exclusive shop method of home training comes to you right from one of the world's greatest vocational educational centers—the resident training shops and experimental laboratories of National Schools. It is the sound, practical training based on actual experience of qualified instructors and engineers who have prepared thousands of National graduates now employed in the radio industry.

It is up-to-date—matches the progress constantly being made in modern radio, television and electronics. It is time tested. National Schools has been training men for higher pay and greater opportunity for more than a third of a century. Fill out and mail the coupon below for details.

Shop Method Training Wins Good Jobs

"My latest offer was $5,800.00 as Radio Photo Engineer . . . but I'm doing well where I am now engaged. I am deeply indebted to National." — Joseph Grumich, Lake Hiawatha, New Jersey.

"Due to my training at National I was selected to instruct in the laboratory work of Navy and Marines." — R. R. Wright, Blackfoot, Idaho.

"I believe National offers the best course to be had. . . . Keep up the good work."—O. K. Ivey, Washington, D. C.

Read what hundreds of other enthusiastic students have written about National Training. Send in your coupon today.

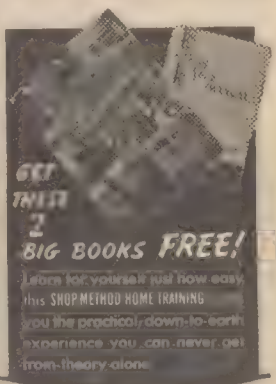
Be Sure in Post-War

Now, right now, is the time to prepare for SUCCESS AND SECURITY in the great expansion after the war. The field is wide open. Trained men will get the preference in the broadcasting stations — in industry — will make quick progress with small capital in their own business. Soldiers, sailors and marines make use of your free time to get ready for the future. Study while still in uniform. Thousands of men in the armed forces have trained at National Schools under U. S. Government sponsorship.

See for Yourself

Now, right now, is the time to grasp the great opportunity of today—a successful career for tomorrow. Get into the big money, rapid advancement, position of importance. A BUSINESS OF YOUR OWN. The industry is crying for trained men everywhere. A rapidly expanding business—probably the greatest in industrial history—holds out the promise of a rich future—prosperous security. But to win it you must be ready. Well-trained men ONLY are wanted.

Examine the National Shop Method of Home Training carefully. Be convinced. Study the lesson we will send you FREE. No obligation of any sort. Fill out the coupon and mail it today.


GET THESE 2 BIG BOOKS FREE!
Learn for yourself just how easy this SHOP METHOD HOME TRAINING
gives you the practical, down-to-earth experience you can never get from theory alone

NATIONAL SCHOOLS

LOS ANGELES 37, CALIFORNIA EST 1905

MAIL OPPORTUNITY COUPON FOR QUICK ACTION

National Schools, Dept. 3-PP
4000 South Figueroa Street, Los Angeles 37, California

(Mail in envelope or paste on penny post card)

Mail me FREE the two books mentioned in your ad including a sample lesson of your course. I understand no salesman will call on me.

NAME ..... AGE .....

ADDRESS .....

CITY ..... STATE .....

Include your zone number

YANKEE CLIPPER (NYNH&H), photographed at Boston South Station from cab of adjacent B&A Hudson type engine 603

Accent on Youth

VIA MOVIES, slide-films, booklets and posters, New York, New Haven & Hartford has made a bid to recapture youthful enthusiasm for the railroads. Immediate aim of the program is to dramatize the history, culture and economics of New England and, in selling the importance of this region, to increase its own profits as the largest freight and passenger carrier in the section it serves.

Eight large posters strive to gain the youngsters' interest. Photographs give closeups of the various types of motive power, inside views of a diner, coach and pullman, as well as pictures of the company-owned bus and truck system. Movie and slide films then present to elementary classes a knowledge of what the railroad is and what its function. "New England: Today and Yesterday," a twenty-minute film, tells the geographical features and lore of the colonies. In addition to these, the secondary schools are provided with a forty-minute movie *A Great Railroad at Work,* and now in preparation are six booklets on transportation to supplement their high school course.

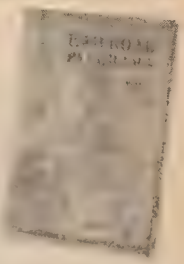
New Haven representatives tell us that there has been a gratifying demand for the material in school; and certainly the attempt is constructive. For while war has given a stimulant to the railroads, peace will bring competition from buses, automobiles and airplanes the like of which has never been seen before. In anticipation of this some carriers are trying to sell the idea of an integrated system of transportation but New Haven is convinced that it must do more than this—it must arouse an enthusiasm in the coming generation for the Iron Trail.

Visual presentation of the railroad story was undoubtedly a happy choice, and the success or failure of the venture will result entirely from the appeal of the material. In a spirit of constructive criticism we feel that the scholastic approach that marks the project, and which undoubtedly won the esteem of New England educators, kills much of the possibility of a live story. Not in terms of what we eat and wear, and where these came from, are tales of adventure written.

Too, there is undue modesty in presenting NYNH&H history, which is a real defeat in a rail-conscious area such as New England.

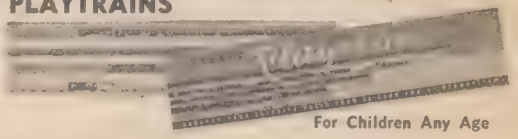
RAILROAD PANORAMA

224 pages of text
32 pages of photographs



Railroad Panorama by A. C. Kalmbach is a deftly painted picture of the railroads of America with 20 well chosen scenes. Locomotives, stations, trains, historic background, even the electric interurban lines—each forms its part of the intriguing picture of action and romance that is Railroad Panorama. The plodding way-freight and the colorful streamliner both come in for their bit of detailed, enthusiastic attention. The 5:15 commuters' rush is typified by the tremendous suburban operation of the Illinois Central in Chicago. The luxury of modern rail travel is told in the story of the Twentieth Century Limited. In all, 20 excellent and detailed chapters which give an unforgetable picture of the American railroad scene **$2.75**

PLAYTRAINS



For Children Any Age

1 Set 25c **4 Sets 50c**

Children like trains, and the surprising thing is that the trains don't even have to run. Every child we've tried them on is crazy about Playtrains—fascinating, true-to-scale colored reproductions on small rectangles of heavy cardboard. The cars and locomotives can be arranged and rearranged at will into reefer blocks, mail trains, solid Pullman limited, switch runs or what have you. A set includes 4 locomotives, 9 passenger cars, 16 freight cars, and a caboose.

TRANSPORT FOR WAR

by Edward Hungerford

Reduced to $1.50

An epic of our time is the accomplishment of the American railroads during World War II. Here is the story of not only what the railroads did, but how they did it. It is the story of American railroad system improvements which made one 1943 box car do the work of two 1918 box cars. 272 pages.

MODEL RAILROAD BOOKS

Handbook for Model Railroaders, by W. K. Walthers. One of the most useful general books on model railroading, a book which will help beginner and old timer alike. Third and revised edition, with many new photographs..... **$3.00**

How to Run a Model Railroad, by Boomer Pete. The author, a popular feature writer for the Model Railroader magazine, was for five years chief dispatcher of one of the largest model railroad clubs, and has helped work out systems of operation for many home layouts, including his own. Out of his broad experience he has written a practical, readable book for every model railroader..... **$2.00**

Model Railroader Cyclopedia, compiled by A. C. Kalmbach. No model railroad shop is complete without the standard reference work of the hobby, the book with hundreds of plans and photos of cars, locomotives, signals, stations, right of way signs, and everything else of use to model railroaders. Short text matter on locomotive building, car building, trolley modeling, and signaling circuits. One buyer said, "I never realized how good the book was because the price is so extremely low."..... **$3.00**

Building a Model Passenger Train, by M. D. Thornburgh. An ideal book for the beginning model railroader who wants to know how to build a locomotive and cars from easily obtained raw materials..... **$1.00**

AT YOUR HOBBY SHOP OR SEND THE COUPON

Kalmbach Publishing Co., Dept. T029
Milwaukee 3, Wis.

Here's $..... for which please send:

- ☐ **Railroad Panorama, $2.75.**
- ☐ **Transport for War, $1.50.**
- ☐ **1 set Playtrains, 25 cents.**
- ☐ **4 sets Playtrains, 50 cents.**
- ☐ **Handbook for Model Railroaders, $3.00.**
- ☐ **How to Run a Model Railroad, $2.00.**
- ☐ **Model Railroader Cyclopedia, $3.00.**
- ☐ **Building a Model Passenger Train, $1.00**

Name .....

Address .....

BOSTON & LOWELL'S ten-wheel *Monarch* was built by Manchester Locomotive Works in New Hampshire

Railroad Camera Club

ITEMS sent to this department are published free, in good faith, but without guarantee. Write plainly and keep 'em short. Use a separate sheet or card containing your name and address. Give your first name, not merely the initial.

Because of time needed to edit, print and distribute this magazine, material must be sent to the Editor at least seven weeks before publication date. Redball handling is given to items we get the first week of each month, if accompanied by the latest Reader's Choice coupon (clipped from page 145 or homemade). Address *Railroad Magazine,* 205 E. 42nd St., New York City, 17.

Due to scarcity of space, we prefer that no reader be listed here oftener than once in three months.

Use the customary abbreviations and photo sizes.

The terms *tts.* always refers to public timetables—unless preceded by *emp.,* when it means employes' (operating) timetables.

(R) indicates desire to buy, sell or swap back issues of *Railroad Magazine* or its predecessors, *Railroad Man's* or *Railroad Stories.* (Specify condition of each copy.)

(*) indicates juicefan appeal.

The Switch List

GEO. W. ADAMS (R), Dexter Asylum, 235 Hope St., Providence, R. I., wants old *Railroad Magazines;* will pay postage.*(Editor's note: George was employe on New Haven for over 30 years; is now crippled. Surely some readers can help him.)*

K. AMY, c/o McKay, 53 High St., Campbeltown, Argyllshire, Scotland, wants catalogs, esp. colored, of model eqpmt. and *Model Railroader,* any date and cond.; will swap British rr. books and catalogs.

Pfc. VERNON L. ARDIFF, ASN 36715884, AUS-MD, Det. of Patients, McGuire Army General Hosp., Richmond, Va., buys cards and envs. postmarked in old Miss. and Ohio River floating RPOs, and envs. with return addresses of steamers. Wants to correspond with ry. postal clerks who served on these.

PETE ASCHER, 71 Leonard St., Gloucester, Mass., will trade recently expired B&M emp. tts. for other roads; also trade or sell B&M pix.

(*)C. L. BALLARD, 124 Claremont Ave., Mt. Vernon, N. Y., wants pix, all sizes, all types of L. A., Pacific Elec. and San Diego Elec. cars, esp. TARS cars sold to SDE.

REX BEACH, 112 S. Mill St., Waterville, Minn., sells pix, tr. ords. and tts., or trades for CGW or M&StL pix. List for stamp.

Pfc. HANK BENNETT 13155331, 250th Signal Opr. Co., APO 758, c/o PM, New York, N. Y., wants complete roster of PRR and PRSL engines in July '41 thru Jan. '42 *Railroad Magazine,* or mags. if necessary; also dope on KCS 220 series. Write first.

SAM BERKOWITZ, 312 W. 28th St., New York 1, N. Y., wants tts. of aban. roads; size 116 pix of NYO&W, U&D or D&N.

(*)GARTH BERTZ, 4106 Laurel Ave., Oakland 2, Calif., trades new and old transfers, tokens and passes of Oakland and San Francisco for tokens and transfers of elec. line from East and Midwest.

(R)C. A. BIRD, 1162 Seminary Ave., St. Paul 4, Minn., will sell *Railroad Magazines,* '40 thru '44; also, tr. ords., rulebooks, tkts., passes, pix, emp. tts., lists of rr. officials, pencils, other railroadiana. Write for list.

RAILROAD CAMERA CLUB is open to all who collect railroad or streetcar pictures or other railroadiana such as timetables, passes, train orders, trolley transfers, magazines, books, etc. There are no fees, no dues.

Membership card and pin are given free to anyone sending us the latest Readers Choice coupon and a self-addressed stamped envelope. If you don't want to clip page 145 make your own coupon. Address *Railroad Magazine*, 205 E. 42nd Street, New York City 17. Tell us what you want or what you offer; otherwise your name will not be printed here.

(*)CHAS. BOGERS, 7 Holmfield Ave., Mattapan 26, Mass., wants pix, badges, transfers, tkts., tts., maps, etc., of New Eng. trolley lines; also any size pix of LVT&I.

CHAS. S. BOHEMIER, 253 Forced Rd., Pembroke, Ont., Canada, wants rosters from *Railroad Magazine* or exact typewritten copies of same; also *Loco. Cyclopedia*, '25, '30, '43. Write first.

RICHARD F. BOONE, 2712 S. Brighton Ave., Los Angeles 7, Calif., buys tts. and rr. match covers.

BRUCE C. BOWDEN, 17 Sterling Rd., Waltham, Mass., trades B&M negs. for B&M negs.; wants B&M pix also; offers pix of B&M, CPR, CNR, GTW. List for stamped env.

(*)W. J. BROSCHORT, 65-17 Fresh Pond Rd., Ridgewood, N. J., wants pix of aban. elec. lines on L. I.; will buy or trade pix of Eastern lines, incl. all New Engl. elec. lines. Also trade 500 U. S. trolley rosters.

R. D. BROWN, 684 Oriole Pkwy., Toronto, Canada, will buy tr. ords., emp. tts. and tkt. stubs, any road.

(*)S/Sgt. W. CALDWELL 36423017, Co. A, 1878th Engr. Avn. Bn., APO 244, c/o Postmaster, San Francisco, Calif., will buy size 120 or 116 pix of trolleys and interurbs., running or aban., in Buffalo, N. Y. Send price list.

R. B. CARNEAL, 1106 N. Elizabeth St., Durham, N. C., wants pix of Sou. No. 1, 4000, 4001, R&D 560, other predecessors of Sou. Ry.

G. R. CHOATES, 1001 Hodge St., Cleburne, Tex., will trade a set of tr. ords. for one pix of wreck or washout, five sets for switch key, worn, broken or obsolete, if rr. name is on it. Write first.

VANCE COLYAR, Rt. 7, Box 411, Olympia, Wash., will buy pix, size 116 or larger, side views, of UP, SP, or NP locos, esp. recent pix of UP 2200-2300s; wants recent UP roster with specifications.

(R)WM. H. COX, 1146½ S. Clark Dr., Los Angeles 35, Calif., wants *Railroad Magazines*, Dec. '29; Dec. '30; May '31; Aug. '42; and May '43. State price, cond.

NED COX, 2413 S. Elm St., Muncie, Ind., sells or trades NKP emp. tts. and tr. ords.; buys NKP pix and negs. Tr. ords., 10c doz., plus postage.

T. L. CRADDICK, 108 S. Walnut St., Villa Grove, Ill., will trade rr. pencils of U. S. roads for foreign rr., steamship or airline pencils.

(*)WM. CRISWELL, 5918 Crystal St., Philadelphia 20, Pa., will buy or swap trolley tokens, any line.

DR. L. J. CROWE, 1936 Vista del Mar, Hollywood 28, Calif., will buy 1884, '88, '95, 1925, *Car Builders Cyclos. or Dict.*; 1909, '16, '22, '25, *Loco Builders Cyclos.* or *Dicts.*; car builders catalogs. Write first.

(*)JAS. CROWTON, 812 So. 4th St., Alhambra, Calif., sells p.c. size pix of old horse streetcars, N. Y. City, taken in '94; 2 diff. pix, 35c ea., postpaid. 500 tokens, 10c ea.; will trade for wreck pix. Wants pix of GW out of Eaton, Colo.

(R)ED DE MARCO, 1150 60th St., Brooklyn 19, N. Y., offers *Railroad Magazines:* all '44, '43, '42; '41, exc. June '40, exc. Mar., Sept.; '39, exc. June, Nov.; all '38; Jan., Feb., June, July, Oct., Nov. '37; Jan., Apr., May, Sept., Nov. '36; Feb., Mar., Dec. '35; Jan. '34; $12 plus postage.

"Finest Collection of Railroad Pictures We Have Ever Seen."

—American Photography Magazine

The nine Trains' Albums of Railroad Photographs are published by railfans, for railfans, and each book is a representative collection of the finest photos on the subject, beautifully printed on special high gloss paper, one side of the sheet only and with a ring binding so individual pages may be removed for framing without damaging the book. Each book contains several "jumbo size" 14-inch photos, especially suitable for framing.

Once you see one book, you'll want all nine:

Book 1—Eastern Railroads
Book 2—Far Western Railroads
Book 3—Midwestern Railroads
Book 4—Colorado Railroads
Book 5—Southern Railroads
Book 6—New England Railroads
Book 7—Electric Railways
Book 8—Pennsylvania Railroad
Book 9—New York Central Railroad

$1 each at your bookstore or direct-by-mail

Here's what one customer wrote when he received the albums: "I wish to compliment you on your splendid efforts in producing this innovation in railroad photography. The new type paper sets off the prints in a manner not in any way second to a well-processed print on glossy paper. In fact, I believe some of the prints are far superior to anything I have observed in photographic publications. . . . These contain the highest possible quality of rail photography and the subjects are not only beautiful power examples but have extraordinarily scenic backgrounds."—Warren C. Fancher.

After you look these volumes over, send us your suggestions for additional albums.

SEE YOUR BOOK OR HOBBY STORE TODAY OR SEND THE COUPON

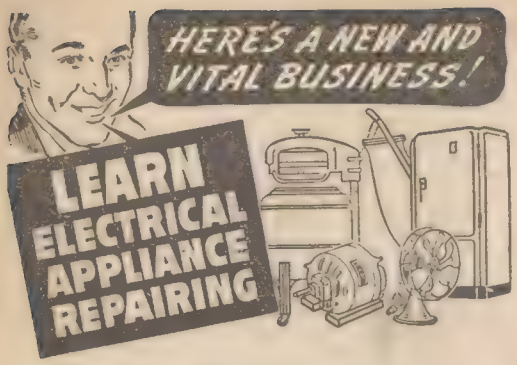
Kalmbach Publishing Co., Dept. 1029
Milwaukee 3, Wis.

Here's $..... Send me albums numbered:

1 2 3 4 5 6 7 8 9

Name .....

Address .....



Offers Big Money — Independence

If you are mechanically inclined—can hold and use tools it will pay you to learn electrical appliance repairing. Operate from your garage, basement, etc. Work as many hours as you wish—the appliance repairman is his own boss. On many types of repairs it is usual for a repairman to charge on the basis of $5.00 to $6.00 an hour!

No Previous Experience Needed

Profusely illustrated our new course shows you in simple, easy to understand language plus drawings and photographs, how to make each repair on refrigerators, vacuum cleaners, washing machines, motors, fans, irons, etc., etc. Explains and gives you a working knowledge of electricity, welding, nickel plating, etc. Shows you how to build the power tools you need and how to solicit and keep business coming to you. Not a theory course but an honest to goodness practical course written by and used by repairmen the country over. Price of course is so low that the savings on your own household appliances will pay for it. Act now! Send today for FREE literature. **Christy Supply Co., 2835 N. Central Ave., Dept. D-118, Chicago 34, Illinois.**

DRAFTING

PREPARE NOW FOR A BETTER JOB

Begin *now* to turn spare time into money. Become a draftsman with opportunities for advancement. Be ready to qualify for a good paying job as industry turns to peacetime production. If you are now doing routine drafting work, prepare *now* for promotion to a better job in your field. Send name and address *today* for FREE information.

AMERICAN SCHOOL, Dept. DD349
Drexel Ave. at 58th St., Chicago 37

Name .....
Street .....
City, State .....

LEARN MEAT CUTTING At Home—In Spare Time

Get into the vital meat industry. Concise, Practical Home Training based on 25 years proven instruction methods used at National's famous resident school. Prepares you for bigger pay as Meat Cutter, Supervisor, market manager or more money in your own store. Go as rapidly as your spare time permits. Diploma. Start NOW to turn your spare hours into money. Send for FREE bulletin today. No obligation. No salesman will call.

National School of Meat Cutting, Inc., Dept. K-7, Toledo 4, Ohio

MAKE THIS SUIT YOURS NEW PLAN

Earn CASH showing to Friends!

Write at once if you want this fine made-to-measure suit! You can get it by taking a few orders from friends, and earn up to $10.00, $12.00 in a day. Your personal suit helps you take more orders with Pioneer latest style, made-to-measure guaranteed suits at amazingly low prices. Also complete line of Ladies' Tailored Suits. No experience, no money needed. Write today for FREE SAMPLES—telling about yourself—age, etc. No obligation—act now!

PIONEER TAILORING COMPANY
Congress & Throop Sts., Dept. R-1096, Chicago 7, Ill.

(R)NORMAN DOUGLAS, Box 3352, Brentwood, Calif., will buy *Railroad Magazines* before Sept. '38, good cond., both covers; will sell, 25c ea. with covers, Aug., Dec. '40; Dec. '41; Jan., Feb., Apr., May, July, Aug., Oct., Nov. '42; Apr. '43; without covers at 15c ea.; June '39; Mar., May, June '43. Will sell SP tr. ords., 10c doz., or trade. Pix list, sample, 10c.

HARRY E. ENTLER, 6412 S. Aberdeen St., Chicago, Ill., will buy tts. intact, old roads, esp. Midwest.

CLARENCE M. FINK, 227 N. Menter Ave., Pasadena 4, Calif., offers 1899 No. 25, *Four Track Series*, NYC pamphlet, $1; 4 rare *Natchez, Miss.*, rr. post notes of 1839 with pix of early U. S. train, $2.75 ea.; rare old PRR bond, coupons attached, with train pic, $5. All guaranteed original.

(*)Pvt. F. GALE, Hq 86th Inf. Div., APO 450, Camp Cooke, Calif., wants to swap transfers and correspond with collectors.

ROBT. GALE, 30 E. Longden Ave., Arcadia, Calif., will buy *Locos of SP*, by Best; also SP loco pix, p.c. size.

E. F. GARDNER, Box 764 X, Central YMCA, 1421 Arch St., Philadelphia 2, Pa., will trade rare Phila., Wilm. & Balto. emp. tts. for old pub. tts. Will exchange list with other collectors. Saves colored folders, local state forms, div. schedules.

TED GAY, 156 Van Buren Ave., Teaneck, N. J., will buy or trade p.c. size pix or negs. of Eastern roads, eng., train or rt.-of-way, esp. before 1930.

W. E. GREEN, 165 Sherman, Ft. Thomas, Ky., will buy pix of Lexington & Eastern, Ohio & Ky., Brimstone, Carolina Western, and Graham County, N. C. Also Feb. '41 *Trains*.

SLOANE GROSSMAN, 3049 Brighton St., Brooklyn, N. Y., will buy or trade tts. of foreign and Amer. rr. and airlines.

Pfc. F. W. GUERNSEY, Co. D, 749 M.P. Bn., Presidio of San Francisco, Calif., will buy any size pix or negs. UP, SP, or NP; esp. NP 2-8-2s.

HELMUTH HAGEN, Marmion Rd., Cape Town, South Africa, will trade pix and correspond with U. S. and Canadian readers.

THOMAS HARDING, *you failed to state address.*

PEARL HARPIN, 110½ 3rd St., Parkersburg, W. Va., will sell tr. ords., flags, other eqpmt. Write for list.

ALEX HASS, 1908 Essex St., Berkeley 3, Calif., wants Rock Island tts. and emp. tts., Kansas Division, both late 1919.

LEONARD HOLTZ, 1803 S. 4th Ave., Maywood, Ill., will buy any size CGW pix; also emp. tts., tr. ords., other material on CGW, IC, Illinois and Iowa lines.

(*)LA MAR KELLEY, 1513 Moyer Ave., Elkhart, Ind., will sell p.c. size negs. of Chicago elec. lines or trade for steam roads. Send 10c for list and sample.

LE ROY O. KING, 3114 N. St., N. W., Washington 7, D. C., wants pix and info. on 28 ft. closed motor cars built by St. Louis for W. Ry. & E. Co. in roster *Mutual Magas.*

BASIL W. KOOB, Box 258, Webster City, Ia., will buy rr. books, good cond., all types; sound recordings; will sell CMStP&P, M&StL, C&NW book of rules, misc. pix. Write first.

TOM LESH, 1104 S. 2nd Ave., Maywood, Ill., sells sets of C&NW (also some CB&Q, IC, CMStP&P) Chicago suburb. serv. single stat. tts.; whole div. tts., 3 C&NW, CB&Q, 2 CMStP&P; singles at 2/1c; div. tts. at 5c. List for stamp.

H. M. LEWIS, Rt. 17, Box 667, Milwaukee 2, Ore., wants detailed info. and pix of amusement park trains, any state. Write first. Will buy usable pix.

RICHARD LOVELAND, 79 Fair St., Forestville, Conn., wants old NYNH&H emp. tts., esp. No. 70; also rulebook about '25.

KEN MacDONALD, 1114 Prince St., Truro, Nova Scotia, Canada, sells action shots, size 116 or larger; buys CNR negs., size 116.

(*)WILFRED MALONEY, *you gave no address.*

(*)WM. MELNICK, 50 Allen St., New York 2, N. Y., will sell no more pix of N. Y. City 3rd Ave. El.

JOHN G. MEYER, M.D., 246 E. Alexandrine, Detroit 1, Mich., will buy C&A info. and pix.

Sgt. TOM MULANIFF 32931006, Co. C 745 Rwy. Opr. Bn., APO 466 c/o Postmaster, New York N. Y., will buy old NYC calendars showing *20th Century Ltd.*; also wants size 116 pix of Rutland locos, trains, action or still.

ROBT. MYERS, 412 Union Ave., Brooklyn 11, N. Y., will buy *Trains*, Dec. '40; Jan., Feb., Apr., May, Aug.-Nov. '41; Feb. '42; Jan., Apr., July '43; Feb. '44, good cond. Write first.

Railroad Camera Club

FRANCIS L. OYSTER, JR., wants latest tts. of B&O, Pennsy, Sou, ACL, C&O.

C. O. PAUL, 627 May St., Palestine, Tex., will swap for rr. article of equal value tr. ord. issued to Roosevelt spec. train over IGN in Tex and MoP; new MoP rule-books; rate of tax sheets, Dec. 27, '43; new tts.; new MoP penalty M. P. leaves for watch chains.

DON PETERSON, 8501 Rhodes Ave., Chicago 19, Ill. will buy or trade Pennsy tr. ords. for Pennsy loco.

D. A. PICKETT, 2416 Rogers, Ft. Worth 4, Tex., offers DR&I and TE size 116 prints; wants good negs. size 116 of ME, PE, P&N, LAR and IRR. Last free.

C. ERNIE PLANT, 3226 E. 26 Ave., Vancouver, B. C., Canada, offers copies BCE Ry. *The Buzzer* free to service men; others, 2 Defense stamps and set of transfers to cover postage.

(R)DAVID M. SACKS, 960 5th St., Plainfield, N. J., will sell *Railroad Magazines*, good cond., '37, '38, '40 thru '44, in lot to highest bidder; none separately. Also *Trains*, Jan., Mar., Apr., June, Aug., Sept., Nov. '41; '42, exc. Jan., Feb., June; '43 and '44 complete, sold in lot for best offer.

(R)STEPHEN B. SHOULTS, 748 Ponce Ave., St. Louis, Mo., has car seals of 50 roads and several hundred tt. ords. (Wab., CR&P, MKT) to trade for *Railroad Magazines* all '42, and before May '40; or *Trains*, at 25 ords. per magazine or what have you.

WILLARD SHREVE, 328 Essex St., Corry, Pa., makes pencil, ink, crayon and water color loco pictures, any size, up to 14 in. square. Send stamp for info.

(R)DAVID SIMMONS, 5701 Mosholu Ave., Bronx 63, N.Y., will sell *Railroad Magazines*, fair cond., 10c ea. plus postage, Sept. '38; Oct. '39; June, July, '41; Nov. '43; Feb., Mar., Apr. '44.

K. M. SMITH, 337 McDougal St., Fostoria, O., wants to correspond with Newfoundland readers. *(Editor's note: On what subject, Mr. Smith?)*

(R)W. R. SWANSON, 5729 27th Ave., N.E., Seattle 5, Wash., has Currier & Ives prints of early scenes, and old Pennsy and other calendars to sell or trade for *Baldwin Locomotives*, *Railroad Man's Magazine* before Apr. '32, *Model Railroader*, before '34, *Trains*, May, Sept. '44;

AUDELS Carpenters and Builders Guides 4 vols. $6

Inside Trade Information for Carpenters, Builders, Joiners, Building Mechanics and all Woodworkers. These Guides give you the short-cut instructions that you want—including new methods, ideas, and time saving suggestions. An easy, progressive course for the apprentice and student. A practical daily helper and Quick Reference for the master workers. Carpenters everywhere are using these Guides as a Helping Hand to Easier Work, Better Work and Better Pay." To get this assistance for yourself, simply fill in and mail the FREE COUPON below.

Inside Trade Information On:

How to use the steel square—How to file and set saws—How to build furniture—How to use a mitre box—How to use the chalk line—How to use rules and scales—How to make joints—Carpenters arithmetic—Solving mensuration problems—Estimating strength of timbers—How to set girders and sills—How to frame houses and roofs—How to estimate costs—How to build houses, barns, garages, bungalows, etc.—How to read and draw plans—Drawing up specifications—How to excavate—How to use settings 12, 13 and 17 on the steel square—How to build hoists and scaffolds—skylights—How to build stairs—How to put on interior trim—How to hang doors—How to lath—lay floors—How to paint

THEO. AUDEL & CO., 49 W. 23rd St., New York City

Mail Audels Carpenters and Builders Guides, 4 vols., on 7 days' free trial. If O.K. I will remit $1 in 7 days, and $1 monthly until $6 is paid. Otherwise I will return them. No obligation unless I am satisfied.

Name.....

Address.....

Occupation.....

Reference..... PER

FOR BETTER JOBS - - GOOD PAY

Prepare DeFOREST'S A-B-C WAY

RADIO ELECTRONICS

The fast-moving, Billion Dollar Radio-Electronics Industry needs many trained men. Write for DeForest's BIG FREE "VICTORY FOR YOU" book. See how you may train yourself at home—in your spare time for these good jobs and satisfying pay checks of today—and for tomorrow's exciting OPPORTUNITIES. See how you may prepare for this field that includes FM Radio, Communications Radio, Electronics, Broadcast Radio, Motion Picture Sound, Radio Sales and Service, or a Radio Business of your own. No experience needed to start. Earn while you learn. *Mail the coupon today!*

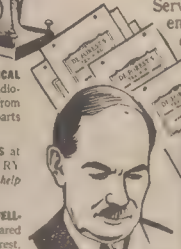
THESE FIGURES SPELL OPPORTUNITIES FOR TRAINED RADIO MEN

- More than 60,000,000 Radios in the U. S.
- Around 900 Radio Broadcasting Stations.
- More than 8,750,000 Auto Radios
- More than 30,000 Radio Retailers
- Almost 2,000 Aviation Radio Transmitters.
- Around 6,300 Police Radio Transmitters.
- More than 1,000 Radio and Parts Manufacturers.
- Thousands of boats, hundreds of trains are Radio Equipped . . . (Another promising postwar field!)

A. "LEARN-BY-DOING" FROM PRACTICAL EQUIPMENT Make 133 interesting Radio-Electronic experiments at home—from the use of eight BIG KITS of Radio parts and assemblies

B. SHOW "LEARN-BY-SEEING" MOVIES at home through use of a genuine DeVRY 16mm movie projector and films *to help you learn Radio . . . faster . . . easier.*

C. GET 90 INTERESTING, MODERN, WELL-ILLUSTRATED loose-leaf lessons, prepared under the supervision of Dr. Lee DeForest, who is often called "the father of Radio"



Employment Service: DeFOREST'S provides an *effective* EMPLOYMENT SERVICE which has long-established contacts with many employers. MAIL THE COUPON!

VETERANS See how DeForest's helps you prepare for a good pay job or a Radio sales or service business of your own

CHECK THE COUPON!

DeFOREST'S TRAINING, INC.

DeFOREST'S TRAINING, INC.
2535-41 N. Ashland Ave., Dept. PP-83
Chicago 14, Illinois, U.S.A.

Please send me your "VICTORY FOR YOU" book and KIT FOLDER, FREE

Name _____ Age _____

Address _____

City _____ State _____

☐ If under 16, check here for special information.

☐ If a veteran of World War II, check here.

RATIONED MOTORISTS

Now Get *EXTRA*
GASOLINE MILEAGE

Now you can get up to 30% extra gasoline mileage with a Vacu-matic on your car. Quicker pick-up, smoother running, added power and precious gasoline savings guaranteed.

Automatic Supercharge Principle
Vacu-matic is *entirely different!* Operates on the Supercharge principle. Saves gas. Automatically provides a better gas mixture. Guaranteed to give up to **30%** extra gas mileage, more power and better performance.

FITS ALL CARS
Constructed of six parts, fused into a single unit. Adjusted and *sealed at the factory.* Very quickly installed by anyone.

AGENTS TRIAL OFFER
Every car, truck, tractor a prospect. Send name, address on postcard for big money making offer and how you get yours for introducing.

Vacu-matic Co., 7617-1135 **W. State St., Wauwatosa 13, Wis.**

GET THIS **FINE SUIT** NO MONEY TO PAY!

BIG CASH EARNINGS TOO! Tailored suit yours without paying one cent—and big cash earnings too! Easy! Just take a few orders for famous Gibson Tailoring. Earn up to $10.00 in a day and get your own suit as EXTRA bonus. Dozens of rich new fabrics in latest styles, at LOW prices. **FREE SAMPLES!** Write today giving name, address, age, etc. for big complete outfit of actual samples and details of new BONUS SUIT and money-making plans—ALL **FREE! SEND NO MONEY. W. Z. GIBSON, INC.**
500 S. Throop St., Dept. R-496, Chicago 7, Ill.

High School Course at Home
Many Finish in 2 Years

Go as rapidly as your time and abilities permit. Course equivalent to resident school work—prepares for college entrance exams. Standard H.S. texts supplied. Diploma. Credit for H. S. subjects already completed. Single subjects if desired. High school education is very important for advancement in business and industry and socially. Don't be handicapped all your life. Be a High School graduate. Start your training now. Free Bulletin on request. No obligation.

American School, Dept. H-349, Drexel at 58th, Chicago 37

SAMPLE LESSON IN
Free · DRAFTING

More good jobs now in Drafting. Learn AT HOME in spare time (or at our Chicago School). Send postcard for **FREE SAMPLE LESSON** and see how easy to learn at home.

CHICAGO TECHNICAL COLLEGE
C-240 Tech Bldg., 2000 S. Mich. Ave., 16 Chicago, Ill.

LAW

STUDY AT HOME for PERSONAL SUCCESS and LARGER EARNINGS. 35 years expert instruction—over 108,000 students enrolled. LL.B. Degree awarded. All texts furnished. Easy payments. Send for FREE BOOK—"Law and Executive Guidance"—NOW!

AMERICAN EXTENSION SCHOOL OF LAW
Dept. 51-B, 646 N. Michigan Ave., Chicago 11, Ill.

REFRIGERATION AND AIR CONDITIONING
SERVICE MECHANICS COURSE

Learn at home—how to start your own repair shop on little capital. No previous experience needed. Common school education sufficient. Splendid opportunity for older men. Prepare now for after the war. FREE illustrated booklet.

MECHANICS TRAINING SCHOOL
4701 W. Pico Dept. R-3 Los Angeles 6, Calif.

For PEACE TIME OPPORTUNITIES
ACCOUNTANCY

Streamlined, home study training by C.P.A.'s. Start at beginning or at any point in Accounting. Moderate cost; easy terms. Placement service. Ask for free booklet, "Accountancy, the Profession That Pays." No obligation.

LaSalle Extension University 417 S. Dearborn St.
A Correspondence Institution **Dept. 3334-H Chicago 5**

will buy *Loco. and Car Builder's Dict.*, '19 or earlier.

JAMES M. SWEENEY, 615 Otisco St., Syracuse, N.Y., wants caboose pix of Rome, Watertown & Ogden., West Shore, Fall Brook, Beech Creek and Ind. Har. Belt; also action shot of NYC *Empire State Exp.* hauled by Pac. eng.; will buy second-hand *High Iron*, by Lucius Beebe.

Lt. SWINASSACK, SIGC, 30 Claremont Ave., Mt. Vernon, N. Y., wants pix of NYNH&H pix with approx. location and date of ea.; also tts., 1870-'32.

WALTER VAN NOSTRAND, Jr., 101-31 130th St., Richmond Hill 19, N. Y., will sell size 116 pix of B&O, Soo, NYC, Pennsy, other locos; send stamp for list. Will buy blueprints, and size 116 pix of LI RR.

Pfc. JOHN WAGNER 12072153, Co. C 87th Mt. Inf., APO 345, Camp Swift, Tex., wants any rr. mags., any cond., for boys in his outfit.

(*)SYDNEY S. WALKER, 1148a Holland St., Crum Lynne, Pa., offers 43 pix of cars formerly running in Wilmington, Del., and Chester, Pa., from first to last; 15c ea. or $5.50 per set. Send for lists.

(R)WOODROW W. WILLIAMSON, 143 W. Tulare St., Tulare, Calif., offers *Railroad Magazines*, Jan., June, Sept., '33; July-Nov. '35; Apr. '36; Nov. '37; Apr., June, Oct. '38; Feb. '39; Jan., Apr., Sept., '41; Feb., Mar., Sept., Nov. '42; May, Nov. '43; Feb., Nov. '44; 25c ea. plus post., or $4.50 plus post. for lot; will trade for *Trains*, Jan.-Mar. '44, all issues prior to Nov. '43. Sells July, Nov. '42 *Official Guides*, 75c ea. plus postage.

Model Trading Post

LISTINGS in this department are free for amateur hobbyists. They are published in good faith but without guarantee. Write plainly and keep 'em short. Use a separate sheet or card containing your name and address. Give your first name, not merely the initial.

Because of time needed to edit, print and distribute this magazine, material must be sent to the Editor at least seven weeks before publication date. Redball handling is given to items we get the first week of each month, if accompanied by the latest Reader's Choice coupon (clipped from page 145 or homemade). Address *Railroad Magazine*, 205 E. 42nd Street, New York City 17.

Due to scarcity of space, we prefer that no reader be listed here oftener than once in three months.

CHAS. S. BOHEMIER, 253 Forced Rd., Pembroke, Ont., Canada, wants Lionel 1662, 1663 or 203 switcher, and 226E, 2-6-4; will sell several cars minus couplers.

RICHARD BOONE, 2712 S. Brighton Ave., Los Angeles 7, Calif., will buy HO brass rail, new or used.

W. L. BREIG, 1412 E. Cheltenham Ave., Philadelphia 24, Pa., will sell HO Mantua Atl., like new, $40; HO Mantua goat kit, $20; track, cars, etc. Send for list.

CLYDE BUXTON, RR 2, Loveland, O., will trade airplane gas eng. for elec. train items, any gage and cond.

J. E. CAMPBELL S 1/c, NTS Ship Salvage, Pier 88, North River, New York 19, N. Y., will trade 2 complete sets Lionel 00 modified NYC 3 rail, some oil, box, hopper cars, for Lionel switcher or 0 gage eqpmt.

Mrs. DAVID C. COMSTOCK, 8 Ogden Ave., White Plains, N. Y., wants to sell on behalf of son now in military service large amount std. gage model eqpmt., good con. Cost $150; sell $75.

WM. H. COX, 1146½ S. Clark Dr., Los Angeles 35, Calif., will sell 2 live-steamers, ½ in. scale, 2½ in. gage; British Pac. 4-6-2 tank loco and 4 frt. cars cost approx. $1200; sacrifice cash or trade; also B&O Pac. 4-6-2, almost complete. Write for details.

NORMAN L. DOUGLAS, Box 3352, Brentwood, Calif., will sell Scale-craft 00 gage eqpmt., bagg. car,

Model Trading Post

$1.75, pass. cars, $4.75 ea.; tank car, $3; Lionel eqpmt. Write for list.

H. D. GIVEN, 3411 Brunswick Ave., Drexel Hill, Pa., sells HO interurban kits, 9 models, $3 ea. List, 6c.

EUGENE F. GUION, 1245 Fuae Ave., Northfield, N. J., wants 17/64th mini-scale combination baggage car and coach, any cond. if unbroken.

BILL HALE, 68 Shelter St., Rochester, 11, N. Y., will trade or buy HO eqpmt. interurbans, trolleys, AC or DC motors, also ½ in. scale trolley eqpmnt. Send list.

Pvt. PAUL HERZ, Co. B, 3201st SCSU, ASTP, Rutgers University, New Brunswick, N.J., will swap 125 *Railroad Magazines*, '32-'44 for 0 gage streetcar eqpmt.

R. C. McLAREN, 1035 Mapleton Ave., Oak Park, Ill., will sell 0 gage AF locos 1680-3308-3186-1682. Lionel 253E, AF crane 583, frt. and pass. cars; or trade for 2623 pass. cars. List for stamp.

DON MORRISON, Jr., 209 Oxford, Winnipeg, Canada, will sell plan package from *Model Craftsman*, 75c; *Model Builder*, Jan. and Feb. '43, 2/10c; *Trains*, Dec. '42, July '43, 10c ea; Lionel catalog free with rest or 10c.

J. E. MUNCEY, Box 125, Milford, Utah, will buy 0 gage eqpmt., any cond.

J. H. RORKE 304 W. Douglass, Reading, Pa., will sell new HO 2-rail kits, 3-rail 00; almost complete file of popular modelmaking mags. Send stamp for list.

M. SACKOWITZ, 1200 E. New York Ave., Brooklyn 12, N.Y., will sell Lionel and AF 0 and 072 frt. and pass. cars; also Marx. List for stamp.

D. M. SCHULER, 101 Oak St., River Rouge 18, Mich., will buy HO gage loco and cars; plans or pix of HO layouts and gage track. Send price list.

ROBT. ULINE, 17 Ralph St., Ballston Spa, N. Y., will buy back issues *Model Ry. News*, vols. 4, 5, 6, 9.

SEYMOUR WYMAN, 5612 Lansdowne Ave., Philadelphia 31, Pa., wants Lionel 0 gage elec. coupler trucks, used on '41 2600 series. State price and cond.

Flag Stops

JOINT meetings of the Metropolitan Society of Model Engineers and the D.C. Chapter of the National Railway Historical Society are held the second Wednesday of the month at 8 p.m. in the A.A.R. Building, 17th and H Sts., Washington, D.C.

SERVICE MEN especially are invited to the monthly meetings of St. Louis Railway Enthusiasts each third Monday at 7:30 p. m. in the Frisco Tower Grove Station, 1500 Vandeventer Avenue.

FRISCO FIRST MAGAZINE, Frisco Building, St. Louis 1, Mo., announces that it will reproduce any pictures of old Frisco engines and return the originals undamaged.

Reader's Choice Coupon

Stories, features and departments I like best in March issue are:

1. .....
2. .....
3. .....
4. .....
5. .....
6. .....

Best photo is on page.....

Name .....

Occupation .....

Address .....

Is stamped envelope enclosed for Camera Club pin and membership card?.....

Railroad Magazine, 205 E. 42nd St., N. Y. City, 17

HANDKERCHIEF TEST

PROVES VITAL ZONE SPOTLESS AND FREE FROM "GOO"—*no matter how often you smoke it!* WDC

HESSON GUARD

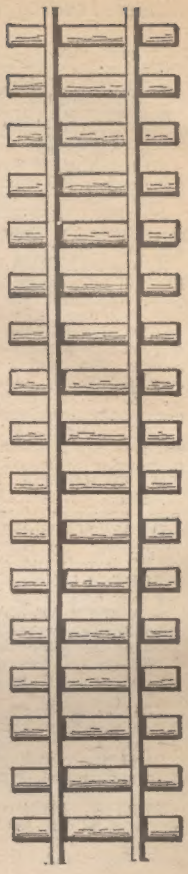
MILANO

LAW

LEARN AT HOME

Are you adult, alert, ambitious, willing to study? Investigate LAW! We guide you step by step—furnish all texts, including 14-volume Law Library. Training prepared by leading law professors and given by members of bar. Degree of LL.B. conferred. Low cost, easy terms. Send NOW for Free, 48-page "Law Training for Leadership."

LASALLE Extension University
A CORRESPONDENCE INSTITUTION
417 S. Dearborn St., Dept. 3334-L, Chicago 5, Ill.



DIRECT LINE TO SUCCESS

Travel down this advertisement to the famous International Correspondence Schools coupon and you're on the way to Success Station.

• It's no secret that TRAINED MEN receive the advancements in railroading, as in other industries. Almost 300 American railroads have cooperative training agreements with I. C. S. They recognize the sound, practical worth of I. C. S. TRAINING.

• The I. C. S. Railroad Department is staffed by experienced men who understand your problems. I. C. S. Railroad Courses were prepared by practical railroad authorities.

• And remember that whether you are in engineering, operating, maintenance or clerical departments, your progress in the railroad field will depend largely on the thoroughness of your training.

• Here you are at the coupon:

INTERNATIONAL CORRESPONDENCE SCHOOLS

ICS

BOX 3276-T, SCRANTON 9, PENNA.

Without cost or obligation, please send me booklet and full particulars about the course *before* which I have marked X:

Air Conditioning and Plumbing Schools
☐ Air Conditioning
☐ Heating ☐ Plumbing
☐ Refrigeration ☐ Steam Fitting

Chemistry Schools
☐ Chemical Engineering
☐ Chemistry, Analytical
☐ Chemistry, Industrial
☐ Chemistry, Mfg. Iron & Steel
☐ Plastics
☐ Pulp and Paper Making

Civil Engineering, Architectural and Mining Schools
☐ Architectural Drafting
☐ Architecture
☐ Bridge and Building Foreman
☐ Bridge Engineering
☐ Building Estimating
☐ Civil Engineering ☐ Coal Mining
☐ Contracting and Building
☐ Highway Engineering
☐ Lumber Dealer
☐ Sanitary Engineering
☐ Structural Drafting
☐ Structural Engineering
☐ Surveying and Mapping

Electrical Schools
☐ Electrical Drafting
☐ Electrical Engineering
☐ Power House Electric
☐ Practical Electrician
☐ Practical Telephony
☐ Telegraph Engineering

Internal Combustion Engines School
☐ Auto Technician ☐ Aviation
☐ Diesel-Electric
☐ Diesel Engines ☐ Gas Engines

Mechanical Schools
☐ Aeronautical Engineering
☐ Airplane Drafting
☐ Flight Engineer
☐ Foundry Work
☐ Heat Treatment of Metals
☐ Industrial Engineering
☐ Industrial Metallurgy
☐ Mechanical Drafting
☐ Mechanical Engineering
☐ Mold-Loft Work
☐ Patternmaking
☐ Reading Shop Blueprints
☐ Sheet-Metal Drafting
☐ Sheet-Metal Worker
☐ Ship Drafting
☐ Ship Fitting
☐ Shop Practice
☐ Steel Mill Workers
☐ Tool Designing
☐ Welding, Gas and Electric

Radio School
☐ Electronics
☐ Radio, General
☐ Radio Operating
☐ Radio Servicing

Railroad School
☐ Air Brake ☐ Car Inspector
☐ Locomotive Engineer
☐ Locomotive Fireman
☐ Railroad Section Foreman

Steam Engineering Schools
☐ Boilermaking
☐ Combustion Engineering
☐ Engine Running
☐ Marine Engineering
☐ Steam Electric
☐ Steam Engines

Textile School
☐ Cotton Manufacturing
☐ Rayon Weaving
☐ Textile Designing
☐ Woolen Manufacturing

Business and Academic Schools
☐ Accounting ☐ Advertising
☐ Arithmetic ☐ Bookkeeping
☐ Business Correspondence
☐ Business Management
☐ Certified Public Accounting
☐ City Letter Carrier
☐ College Preparatory
☐ Commercial
☐ Cost Accounting
☐ Federal Tax
☐ First Year College
☐ Foremanship
☐ French ☐ Good English
☐ High School
☐ Higher Mathematics
☐ Illustrating
☐ Motor Traffic
☐ Post Office Clerk
☐ Railway Postal Clerk
☐ Salesmanship ☐ Secretarial
☐ Spanish
☐ Stenography
☐ Traffic Management

Name.....*Age*.....*Home Address*.....
Present Position.....*Working Hours*.....*A.M. to*.....*P.M.*
City.....*State*.....

Canadian residents send coupon to International Correspondence Schools Canadian, Ltd., Montreal, Canada.
British residents send coupon to I. C. S., 71 Kingsway, London, W. C. 2, England.

DISCOUNT TO DISCHARGED VETERANS—SPECIAL TUITION RATES FOR MEMBERS OF THE ARMED FORCES

Over Two Million Readers Have Wept and Loved and Laughed with the Wonderful Nolans of Brooklyn!

A TREE GROWS IN BROOKLYN
"Excitingly beautiful—one of the outstanding fiction works of the year perhaps many years."—Chicago Sun
"Writing like this is rare."—Springfield Republican
"It sings" N. Y. Herald Tribune
Has DOUBLED the sales of GONE WITH THE WIND in the same time

"Lay your hands upon a copy, by whatever means at your command."—BOSTON GLOBE. Take it now as a GIFT!

FREE!

WITH DOLLAR BOOK CLUB MEMBERSHIP

A Tree Grows in Brooklyn is the story of the Brooklyn Nolans. Francie, the daughter of the family, learned in her early years that the simple things of life—getting enough to eat, having a place to sleep, keeping clothed and being able to go to school—were not easy to get. But to Francie and her brother Neeley, the world was a shining place and every day too short for the adventures it held. Her father was a singing waiter who didn't always bring home the money he earned, but to the Nolans, poor as they were, money was not too important as long as they had each other.

Francie's life story is the story of a city girl who grew into beautiful womanhood because she chose to make life give her its glorious things. A TREE GROWS IN BROOKLYN is a book to own and enjoy and remember. A FREE copy will be sent you if you join the Dollar Book Club now.

DOLLAR BOOK CLUB MEMBERSHIP IS FREE

—and it brings you amazing bargains like this!

THE DOLLAR BOOK CLUB is the only club that brings you books by outstanding authors, for only $1.00 each. This represents a saving to you of 50 to 75 per cent from the original $2.00 to $4.00 price. Every selection is a handsome, full-sized library edition printed exclusively for members.

Members are privileged to purchase as many Club books as they wish at the special price of $1.00 each. Although one selection is made each month. You do not have to accept a book every month; only the purchase of six selections a year is necessary.

The Economical, Systematic Way to Build a Library of Good Books

Dollar Book Club selections are from the best modern books—the outstanding fiction and non-fiction by famous authors. Such outstanding best sellers as THE PRODIGAL WOMEN, MRS. MINIVER, KING'S ROW, DRAGON SEED, THE STRANGE WOMAN and THE SONG OF BERNADETTE were all received by members at $1.00 each while the public was paying from $2.00 to $3.00 for a publisher's edition, at retail.

300,000 discriminating readers are enthusiastic supporters of the Dollar Book Club. This huge membership enables the Club to offer book values unequaled by any other method of book buying.

Start Enjoying Membership at Once—Upon receipt of the attached coupon you will be sent a Free copy of A TREE GROWS IN BROOKLYN. You will receive each month the free monthly magazine called "The Bulletin," which is sent exclusively to members of the Club. This Bulletin describes the selection and reviews about thirty other books available to members at only $1.00. If you do not wish to purchase the next month's selection for $1.00, you may notify the Club and the book will not be sent you. You may request an alternate selection if desired.

Send No Money—Just Mail the Coupon—A TREE GROWS IN BROOKLYN will be sent you at once, FREE. DOUBLEDAY ONE DOLLAR BOOK CLUB, Garden City, New York.

MAIL THIS COUPON

FREE: "A Tree Grows in Brooklyn"

Doubleday One Dollar Book Club
Dept. 3 P.O.P., Garden City, New York

Please enroll me free for one year as a Dollar Book Club subscriber and send me "A TREE GROWS IN BROOKLYN" FREE. With this book will come my first issue of the free monthly Club magazine called, "The Bulletin," describing the one-dollar bargain book for the following month and several alternate bargains which are sold at $1.00 each to members only. Each month thereafter I am to have the privilege of notifying you in advance if I do not wish the following month's selection and whether or not I wish to purchase any of the alternate bargains at the Special Club price of $1.00 each. The purchase of books is entirely voluntary on my part. I do not have to accept a book every month—only six during the year to fulfill my membership requirement. And I pay nothing except $1.00 for each selection received, plus a few cents handling and shipping costs.

Mr.
Mrs. .....
Miss (Please Print)

Street and No. .....

Zone No.
City.....(if any).....

State .....

If under 21, age please.....
Slightly higher in Canada: 105 Bond St., Toronto 2, Canada

"It's a bull's-eye!"—says HI to HATT

It's silky flavor's made a hit with sev'ral million guys!
HATT
A lotta stuff tastes pretty good, but Kessler's—that's the prize
HI
SMOOTH AS SILK but not "High Hat"
KESSLER'S Private Blend
Every label bears facsimile of my signature
KESSLER'S
Private Blend
BLENDED WHISKEY
BLENDED BY JULIUS KESSLER DISTILLING CO., INC. LAWRENCEBURG, INDIANA
ONE PINT

KESSLER'S BLENDED WHISKEY

True Pre-War Quality

KESSLER'S PRIVATE BLEND. 75% Grain Neutral Spirits. 85 Proof. Julius Kessler Distilling Co., Incorporated, Lawrenceburg, Ind.

SCAN COURTSEY OF
EXCITER